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MINORITY INFLUENCE AND SOCIAL CATEGORIZATION

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March 1987

This thesis is submitted as partial fulfilment of the Doctor of
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This thesis is dedicated to the loving memory of my father,

I hope within these pages his dream will be realized.

ABSTRACT

The aim of this thesis is to examine the effects of ingroup and outgroup membership upon minority influence and in doing so address a number of unresolved issues resulting from previous research.

Research in this area is not only intended to resolve theoretical issues but relates to factors salient to minority influence in the 'real world'. For while there exist ingroup minorities (such as, environmentalists) there are also outgroup minorities (such as, black power).

A model of minority and majority influence is proposed which is a synthesis of Moscovici's (1980) Conversion Theory and Tajfel's (1984) Social Identity Theory. This new model proposes that when individuals are influenced they not only adopt the source's advocated position but also recategorize themselves as part of the source's group. As a consequence of this recategorization, individuals self-attribute the typical characteristics perceived to arise from the source's group membership. Therefore, on public responses, influence will be related to the degree of change to individuals' social identity from self-attributing the source's characteristics. The more undesirable the characteristics of the source, the less likely public influence will occur (since individuals avoid publicly joining an undesirable group). However, the more undesirable the source's characteristics, the more distinctive they are (in terms of attitude and identification) and the more likely they are to cause 'conversion' and have influence on the private (latent) level.

A number of hypotheses from this model are tested with experiments that

)
examine the influencing abilities of ingroup and outgroup minorities.

The findings support the proposed model.

)
The major findings are:

) (i) on public responses, ingroup minorities tend to have more influence than outgroup minorities.

) (ii) on private responses, the reverse pattern emerges, outgroup minorities tend to have as much, if not more, influence than do ingroup minorities.

) (iii) the superior influence of ingroup minorities over outgroup minorities on public responses can occur when the categorization process is based on a relatively trivial dimension but only when there is a basis to self-attribute desirable characteristics. When there is no basis to self-attribute desirable characteristics then there is no difference between ingroup and outgroup minority influence.

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I would also like to acknowledge the time and patience of the subjects who participated in these experiments. In particular, I would like to thank the staff and pupils of some schools in Milton Keynes and Swindon who not only willingly participated but withstood endless interruptions of their own time.

Finally, and by no means least, I would like to thank my family and friends for enduring many years of bad moods and in particular to my wife Stephanie who has borne the greatest brunt of this.

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INTRODUCTION

This thesis focuses on certain theoretical issues which were unresolved by previous research into minority influence. Interest in this area of research stems directly from earlier research on majority influence. The study of majority influence is closely linked to the notion of conformity while the study of minority influence is associated with the process of innovation.

It is important at the outset to point out that in this thesis I am concerned with the work of experimental social psychologists. Experimental work, as we shall see, focusses on situational aspects, for instance, the size of the majority, the context in which judgements are made or influence processes attempted. In this work, relatively little attention is paid to personal attributes such as sex, age, attitudes and other predispositions. There is other work in social psychology which is particularly concerned with personality development and personality attributes which also offers explanations for majority influence. For instance, Adorno et al.'s famous work on the Authoritarian Personality (1950) seeks to explain in psycho-analytic terms how people develop personalities which make them prone to adopt authoritarian beliefs, become rigid and dogmatic, and, by implication, conform to the majority. The focus of attention in Adorno et al.'s work is on personality development and explanations are couched in terms of dispositional concepts rather than derived from situational aspects and contexts. Work on the authoritarian personality and other work, such as Rokeach's research into dogmatism (1960) or Eysenck's (1954) work on personality factors, is mainly based on psychometric measures (interviews, projective tests, attitude scales and so on) and will not be considered here. Furthermore, while

such work may contribute towards understanding majority influence, it has not been used to explain the impact of the minority.

All research has in-built biases in terms of its theoretical starting point and its associated preferred methodology and it is as well to recognise this and to make it plain that in this thesis the main emphasis is on experimental work which, almost by definition, favours explanations in terms of contextual/situational aspects.

Whilst research traditions may arise purely from intellectual curiosity, social psychologists' choice of research areas have frequently been closely linked to contemporary real-life concerns. Research on conformity, for instance, arose initially out of dismay at the extent of conformity to the views of pre-World War Two dictators and the impact of the mass media on political beliefs. It may not be accidental that many of the social psychologists who initially turned to the study of conformity, persuasion or, by contrast, such topics as democratic leadership, were European refugees settled in the U.S.A..

Before reviewing the work of the major contributors in the area of majority and minority influence it is necessary to set down some definitions of key concepts. When discussing research into majority and minority influence it will become apparent that researchers tend to employ different definitions of both these terms. The main problem is that there tends to be a discrepancy between the definitions applied at the theoretical level and at the experimental level. There are at least three dimensions which have formed the basis for distinguishing between minorities and majorities.

- 1) Numerical - it is possible to define a minority as the numerically

smaller entity and the majority as the numerically larger entity within a group. This is often the conceptualization held by the lay person. Such a view ignores what is said by the minority and majority and relies upon relative numbers which, however, can be affected by the context in which they occur.

2) Norms - a norm may be considered to be a code for socially acceptable behaviour. It is possible to define a majority as a group which holds the normative position and the minority as the group which holds the anti-normative position.

3) Power - in this context the term power is being used to refer to the ability to exert influence. In this conceptualization one may think of the majority as having power and the minority as lacking power. This analysis is based on the observation that minorities are groups which typically lack power in society, are discriminated against and hold low social positions. Although it is true that many minorities lack power this may be a consequence of their status rather than a defining feature.

The above three dimensions are often used to define a majority and a minority. To summarize we can define a majority as a group who holds the normative position, and/or is usually the numerically larger group and/or possesses power, while a minority can be defined as a group (or individual) who holds an anti-normative position, and/or is usually the numerically smaller group and/or has little or no power. From these definitions it can be seen that it is impossible to define a minority or a majority without reference to each other, in fact it could be claimed that they are the opposite sides of the same coin.

Whilst social psychologists have been interested in social influence for many decades a recent research tradition has grown amongst European social psychologists. The aim of this tradition has been to question much of the earlier American social psychology and stress the 'social' nature of Social Psychology. The largest research area within this new European tradition has concerned itself with intergroup relations and the concept of social identity (Tajfel, 1984). Researchers in this area have convincingly argued that individuals possess a social identity which incorporates knowledge of, and emotional ties to, the groups they belong to. In order to maintain a positive social identity, individuals tend to favour their own group at the expense of an outgroup. The result of this process is that individuals tend to over-evaluate characteristics belonging to their own group and under-evaluate those belonging to the outgroup. The motivation to engage in such discriminatory behaviour need not be based upon well founded differences between groups, for they can occur upon the most trivial differences.

From the above definitions of majority and minority, it is apparent that they may be considered also as ingroups and outgroups. Indeed, research which will be discussed in this thesis shows that minorities tend to be evaluated with negative connotations compared to majorities in the same way in which outgroups are devalued compared to ingroups. This is an important departure from previous conceptualizations, for I am suggesting that the dynamics which occur between majorities and minorities can be expressed in terms of intergroup relations. The aim of this thesis is not to justify such a comparison, although this is implicitly dealt with in the arguments presented, but to explore the role of categorization (that is the process of assigning oneself and others to different groups) upon social influence and, in particular,

upon minority influence. The decision to concentrate upon minority influence has not been coincidental for the study of minority influence provides an opportunity to examine social influence from the point of view of the outgroup. Such questions as: Under what conditions can minorities influence the majority? Are there differences between ingroup and outgroup minorities? Does the relevance of the categorization dimension affect social influence? are some of the issues which are at the heart of the thesis.

The thesis is divided into three parts. Part one consists of four chapters which discuss the research concerning majority influence (chapter 1), minority influence (chapter 2), theories of social influence (chapter 3). The last chapter in the first part contains a review of the effects of social categorization upon social influence and a theoretical outline of an intergroup perspective of social influence processes (chapter 4). The second part of the thesis describes the results of 10 experiments designed to test hypotheses derived from the intergroup perspective. These experiments are discussed in four chapters (chapters 5-8). The third and last part consists of one chapter which discusses the results of the experiments and considers issues arising from the research (chapter 9).

PART ONE: THE LITERATURE REVIEW

CHAPTER 1 : MAJORITY INFLUENCE - THE PROCESS OF CONFORMITY

1.1 Early studies of Conformity

1.1.1 The work of Solomon Asch

The first major investigation into conformity was conducted by Solomon Asch in the early 1950's. The impact of this research has been so great that it warrants detailed consideration. Since Asch employed the same basic design throughout all his experiments, this is described below. This account is taken from Asch (1956) and the page references for these quotations refer to that volume.

Typically 7-9 American male college students participated in a task involving the discrimination of lengths of lines each of which was numbered. The subjects were required to judge which one of the three lines was of the same length as another line (the standard). Out of eighteen trials the number of errors was only 0.7% of the total number of responses. In fact 35 out of the 37 subjects made no errors at all. This shows that the task was unambiguous in nature and that nearly everyone knew the correct answer.

Asch then employed the following manipulation - all of the subjects except one (the naive subject) were confederates of the experimenter who were instructed to give certain predetermined responses. Subjects

gave their responses verbally and seating was arranged so that the naive subject always gave his response last but one. On the first two trials the confederates (the majority) gave the correct response, however out of 12 of the remaining 16 trials all the confederates made the same erroneous response (the critical trials). The confederates made two types of errors, moderate or extreme errors according to the amount they deviated from the correct response.

Let us imagine the situation facing naive subjects when confronted with an erroneous majority. In the experimental room he is required to make an unambiguous judgement which under normal circumstances would require little effort. In the first two trials he observes that the other members of the group are giving the same response as he does, that is the 'normal' or expected response. At this stage nothing unusual has happened because the naive subject would expect everyone of sound vision to be competent at the task. Then, suddenly, all the other subjects start giving obviously wrong response. The naive subject becomes confused, he attends to the lines more closely to see if he is wrong, he looks at the experimenter in the hope of a rational explanation. This is the dilemma facing the naive subject - does he yield to the group and also give an erroneous response or does he stick to the correct response ?

When confronted with an erroneous majority Asch found that the naive subjects agreed with it on 36.8% of the trials. In other words the naive subjects conformed to the erroneous majority on approximately one third of the trials whilst giving the correct responses on the others. Asch has termed the latter as independence, that is, as resisting conformity.

Another interesting finding was that when the majority made a moderate error, all the errors of the subjects were also moderate but, when the majority made extreme errors (that is, when they chose the line which was least like the standard line), about 20% of the subjects' errors were moderate and therefore different to the majority. This shows that, when faced with an extremely erroneous majority, some subjects may have avoided being as extreme as the majority and so gave a moderately erroneous response. This is an interesting situation for the subject has neither given a correct answer nor has he agreed with the majority, therefore, it is hard to see whether the subject was conforming or being independent.

Immediately following the experiment the subjects were interviewed in an attempt to find out their reasons for their behaviour. The interview data revealed that there were different types of yielding (that is, agreeing with the majority) and independence (that is, not agreeing with the majority). The following quotes are subjects' responses to interview questions quoted in Asch (1956).

There were two forms of independence. The first form was independence of strength where subjects retained their own response and withstood group pressure with little difficulty. Asch reports a subject who even enjoyed disagreeing with the majority, "I was getting almost a sadistic pleasure out of being different" (p.37). The second form was independence without confidence where subjects were overwhelmed by doubt and were convinced that they were wrong and that the majority was right. However they did not yield to the majority because they believed that they were required to respond as they actually saw the task. In other words, they believed they had to obey the experimental instructions and respond how they saw the lines irrespective of the

response of others. This reasoning is demonstrated in the following quotes: "In the light of the opinions of the others I'd say I was wrong, but I answered as I saw" (p.40) and "the experiment required an accurate answer" (p.40).

Of those subjects who yielded to the majority there were three types. The first form was yielding at the perceptual level. This was the rarest type of behaviour and was characterised by the subject yielding to the majority without awareness. In other words they really believed the majority was correct. Asch (1956) reports on a subject that it "..... appeared that his lack of awareness enabled him to maintain an attitude of complacency and frankness, only mildly troubled by the suspicion that something unknown to him had occurred" (p.42).

The second form of yielding was yielding at the level of judgment. In this situation the subjects believed that the majority may have been wrong but thought that since several pairs of eyes (belonging to the majority) are better than one (his own), it is he who may have been at fault and consequently had little confidence in his response. This can be seen in the following two quotes given by subjects: "The majority was against me - I thought perhaps I was wrong" (p.44) and "I gave the group answer against the card. Often mine still looked best, but I figured they were right" (p.43).

The third form of yielding was yielding at the level of action. In this situation the subject yielded but knew that the majority was wrong. The subjects desired to belong to the group and avoided conflict by agreeing with the erroneous majority. This can be seen from the following quotes; "Here was a group; they had a definite

idea; my idea disagreed; this might arouse anger" (p.46) and "I began to feel I was being pushed to an answer I didn't want to give".

It is quite clear from these explanations of responding that (a) subjects varied as to how they perceived and how they reacted to the situation and (b) that there was often a large discrepancy between the response subjects gave publicly in front of the group and their private beliefs as evident in the interviews.

1.1.2 The Work of Richard Crutchfield

Although the Asch research design has been extensively used as a tool of investigation it has a relatively low production of data compared to the effort required in achieving it. For each subject a large number of trained confederates are required (anything from 3 to 16) as well as approximately an hour of the experimenter's time to supervise the experiment and conduct the post-experimental interviews. If one considers that Asch often employed over 100 subjects in an experiment one can imagine the colossal organization that was required to conduct these studies.

As well as practical considerations there are a number of theoretical issues which are problematic in the Asch paradigm. Firstly, since Asch used different sets of confederates during the course of the experiments, there is the possibility that some confederates may have been perceived as more influential than others. Secondly, it is impossible to control for confederates' behaviour over time. Although confederates only gave a short verbal response, other factors, such as tone of voice or body movements, may have had an effect.

One method which overcomes many of these problems was devised by Richard Crutchfield and is known as the Crutchfield Apparatus. Typically, five subjects sit side-by-side but are separated from each other by partitions such that no visual contact can be made. In front of each subject is a series of 11 switches upon which the subject can indicate his/her answer to a number of judgements. The apparatus is also designed to convey information about the responses made by the other subjects by displaying them on a panel of five rows of 11 lights where each row corresponds to the response of each subject. Responses are made in turn with those of each subject being displayed on everyone's panel.

In fact, each subject is deceived, the panel of lights is controlled by the experimenter to give the illusion that the subject is part of a group. Crutchfield (1953) states "The entire situation is, in a word, contrived and contrived so as to expose each individual to a standardized and prearranged series of group judgments" (p.192). These judgements can be made to appear to be in agreement or disagreement with the subject. The advantage of this method (compared to Asch) is that no confederates are used, each subject is a source of data and that it is possible strictly to control the information given to each subject.

The results obtained by Crutchfield are interesting. On a simple logical task, such as the completion of a number series, 30% of subjects conformed to an erroneous majority answer (note, no subjects in the control condition, who had not been exposed to an erroneous majority, had given an incorrect answer). On ambiguous tasks, such as a number series which had no logically correct answer, conformity was

as high as 79%.

1.1.3 Comparisons of Asch and Crutchfield Techniques

The major difference between the Asch and Crutchfield methods concerns the 'visibility' of the majority. In the Asch experiments the subject could see the majority whereas in the Crutchfield experiments the majority was not seen but implied. One could predict that the physical presence of the majority in the Asch paradigm might result in a higher rate of conformity than in the Crutchfield paradigm.

Levy (1960) tested such a hypothesis by employing the same line comparison task as Asch but, instead of subjects giving their responses verbally in front of the majority, they responded on a Crutchfield apparatus. Levy found that the subjects conformed to the majority on 19.1% of the trials which is lower than Asch (1956). There was also evidence that subjects were more suspicious of the experiment than in the original Asch studies. Levy concluded that the result "..... indicates that the laboratory situation created by Crutchfield is far less effective than the original face-to-face situation created by Asch" (p.41). This is likely to be so either because people conform more on public occasions to avoid disagreement irrespective of their private views (as Asch has shown) or because a face-to-face group may be more convincing than a simulated group.

1.1.4 Modifications of the Asch Research Designs

Asch modified his basic research design to look at other factors which

might affect conformity. In his 1956 paper he gives details of several of these 'minor' experiments. Asch was concerned whether the effects he had observed could be generalized to another unambiguous task. In one experiment subjects viewed two colour wheels and had to judge whether the comparison wheel was lighter, darker or the same brightness as the standard wheel. He found that the subjects agreed with the erroneous majority on 39% of the trials which is very similar to the line comparison task (approximately 37%).

In another experiment the subject was told that he had arrived too late but could still take part by writing his responses on a piece of paper instead of giving them verbally (therefore the majority would be unaware of his responses). In this situation the number of errors was 12.5% which is significantly lower than when subjects had to give their responses verbally but is significantly higher than in the control condition.

Asch was also interested in the effects of breaking the majority's consensus. He found that, if a confederate started to give the correct response (and hence agreed with the subject), conformity fell to about 8% (Asch, 1951). If the confederate started to give a response which was different from the subject but which was also incorrect, conformity was about 9% (Asch, 1955). This suggests that breaking consensus is the most important factor in reducing conformity and whether the dissenter agrees or disagrees with the subject makes no difference. The theoretical relevance of this will be discussed later.

1.2 Explanations of Conformity

1.2.1 Functionalist Approach

The most popular explanation of conformity derives from Festinger's (1950,1954) Social Comparison Theory and is often termed the Functionalist Approach. The basic assumption of social comparison theory is that individuals have a desire to evaluate their opinions and abilities. Persons prefer objective criteria (physical reality) as standards for self-evaluation. In the absence of adequate physical reality, persons seek out other individuals as sources of information (social reality). In other words, individuals compare themselves with other individuals as a means of evaluating their opinions. There exist in groups, according to Festinger, 'pressures towards uniformity' which arise either from social comparisons between the group members and/or from 'group locomotion' (that is, the desire to seek group consensus in order to fulfil group goals).

Applying the theory to social influence processes it can be seen that, whenever there is a discrepancy within the group, communication by the group is directed towards reducing the discrepancy in order to restore group uniformity. Group uniformity can be achieved either by the deviate changing his/her opinions towards the group response or by the deviate being rejected by the group.

There is some evidence to support the hypothesis that deviates receive more communication than the other members of the group. In a much cited experiment, Schachter (1951) required groups of 5-7 subjects to discuss the topic of juvenile delinquency. He manipulated two variables, cohesion (high/low) and relevance of the topic (relevant/irrelevant). In each of the groups three members were

) confederates of the experimenter and responded to the group discussion in a predetermined way. One of the confederates began the group discussion by advocating an extreme position but gradually changed his attitudes to agree with the group ('slider'). Another confederate held the modal position of the group throughout the discussion ('mode'). Finally, the last confederate consistently held an unpopular view ('deviate').

) Consistent with Festinger's theory, Schachter found that the 'deviate' was rejected more often in the high cohesive groups (since pressures towards uniformity will be greater in high cohesive groups than in low cohesive groups). Surprisingly, relevance of the topic to the individual had no effect on the rejection of the 'deviate'. Schachter also found that the 'deviate' received four times more communication from the other group members than the 'slider' and seven times more than the 'mode'.

) Although Schachter's results have been widely quoted as evidence for Festinger's theory, Mills (1962) notes that the greatest total of communication to the 'deviate' occurred in the low cohesion/irrelevant topic condition which, according to Festinger, should have the lowest pressures towards uniformity.

1.2.2 The Role of Dependency

) According to Festinger, conformity occurs as a result of social comparisons in order to achieve group uniformity. There is, therefore the assumption of a desire in individuals to use other people as sources of reference for their own behaviour or opinions. In other

words, individuals are seen as dependent upon others as a means of self-evaluation. The concept of dependency has dominated studies of social influence to such an extent that Moscovici (1976) has stated that "The French say 'cherchez la femme'; social psychologists say 'look for dependence, and everything will be explained'" (p.19).

Typically researchers have distinguished between two types of dependency, institutional and instrumental. Institutional dependency is associated with power dimensions and may result from the qualities of individuals (for example, leaders) or may be collective (for example, the effect of the majority). Instrumental dependency is associated with the gratification of certain needs. Jones and Gerard (1967) have differentiated between two forms of instrumental dependency (they refer to it as social dependency). First, effect dependency "..... in which one person relies upon another for the direct satisfaction of needs" (p.711). Second, information dependency "..... one person relies upon another for information about the environment, its meaning, and the possibilities of action on it" (p.741).

As a consequence of using the group as a source of evaluation, individuals become dependent upon it as a source of information (information dependency) and/or as a means of satisfying psychological or material needs (effect dependency). To a certain extent these two forms of dependency are interrelated and cannot be theoretically or practically separated. However, they do help us to understand the reasons why individuals conform.

1.2.3 Dependency and Majority Size

If dependency is the cause of conformity then one would expect conformity to increase as the majority size increases. This follows from the reasoning that the greater the size of the majority the more individuals will become dependent upon it as a source of information.

In general, evidence does not favour the majority size hypothesis. Asch (1951) found that majorities larger than three do not significantly increase the rate of conformity. In fact, Rosenberg (1961) found a significant decrease in conformity when the majority size increased from three to four. In contrast, Gerard, Wilhelmy and Conolley (1968) found a linear relationship between conformity and the size of the majority. However it has been noted that in the Gerard et al. study there was no significant increase in conformity beyond a majority size of four (Wilder, 1977).

Wilder (1977) provides an interesting perspective to the studies which have examined the relationship between majority size and conformity. He proposes that it is necessary to examine the way in which individuals categorise the members of the majority and he suggests that it is the number of social entities an individual perceives rather than the number of individuals which is the determining factor. He defines a social entity as "..... an individual or group of persons who are perceived to be a unit, distinct from others present" (p.254). Consistent with this analysis, Wilder found that conformity increased as the number of social entities subjects perceived in the majority increased whilst varying the number of individuals in a single entity had little effect.

The results of studies on majority size and conformity do not present

a clear picture and there is little evidence that conformity increases above a majority size of three. In conclusion one can state that the experimental data only provides partial support for the majority size hypothesis. It could be argued that the relationship between majority size and dependency is a tenuous one and can be affected by many things. In the next section I consider a well known study on conformity which provides a better test of the role of dependency.

1.2.4 Forms of Social Influence

In an influential paper, Deutsch and Gerard (1955) have distinguished between two forms of social influence, normative social influence which is defined as "..... an influence to conform with the positive expectations of another" (p.629) and informational social influence which is defined as ".....an influence to accept information obtained from another as evidence about reality" (p.629). It can be noted that these two forms of social influence correspond to effect and information dependency considered in the last section.

Deutsch and Gerard hypothesized that normative social influence should be greater, and hence cause a higher rate of conformity, when individuals believe that they are part of a group than when they do not. This follows from the reasoning that when individuals form a group they will conform to the expectations of the group (possibly as a method of achieving group cohesion). Also, normative social influence should be reduced, and hence the rate of conformity, if individuals believe that their responses cannot be identified by others (since they do not feel any pressures to conform).

To test these hypotheses, Deutsch and Gerard employed Asch's line comparison task with a naive subject being confronted by three confederates who all gave the same erroneous response. There were three conditions. The first condition was a replication of Asch's experiment and known as the 'face-to-face situation'. The second condition was the 'anonymous condition' where subjects were separated by partitions and responded on a Crutchfield Apparatus. Although the responses of the other subjects appeared on the panels they were led to believe that "..... because of a complicated wiring setup the subject's number had no relation to his seating position" (p.631). In other words, it would not be possible to identify the source of each response. The third condition was the 'group situation' which was identical to the 'anonymous situation' except that they were told that "We are going to give a reward to the five best groups - the five groups that make the fewest errors on the series of judgments" (p.631). The reward was tickets to a Broadway play. The aim of this manipulation was to increase the feeling that individuals were participating in a group activity.

The results confirmed their hypotheses (number of errors are given in brackets). First, conformity was greater when individuals formed a group ('group situation' - 12.47%) than when they did not (anonymous situation - 5.92%). Second, conformity was less when subjects believed that their responses could not be identified ('anonymous situation' - 5.92%) than when others were aware of their responses ('face-to-face situation' - 7.08%). The latter finding is similar to Levy's study discussed earlier in this chapter (see section 1.1.3), namely that the Asch paradigm is more effective in producing conformity than the Crutchfield paradigm (note that subjects responded on a Crutchfield Apparatus in the 'anonymous situation').

The results of these experiments suggests that dependency is the basis of conformity, where individuals are dependent upon the majority either for information to verify their position (informational social influence) or for the psychological benefits others can supply (normative social influence).

1.3 Alternative Explanations for Conformity

It was stated earlier that the Functionalist approach was the dominant explanation for conformity for many years. In fact, it was not until research directed attention away from conformity to minority influence in the late 1960's that the Functionalist approach was questioned. As a result of this change in emphasis an explanation of conformity based on response consensus emerged which is not based on dependency. This explanation is important because it forms the basis of the dominant explanation for minority influence.

1.3.1 Consensus Hypothesis

The majority consensus hypothesis states that majorities are able to achieve conformity only when they are unanimous. It has already been noted earlier that Asch found that when one of the majority started to give different responses, that is, broke consensus, the rate of conformity fell. Other experiments have found a similar effect.

Mouton, Blake and Olmstead (1956) conducted an experiment where subjects were required to judge the number of metronome clicks they

could hear through an earphone. The clicks were presented at a rate of 180 per minute. The experiment consisted of nine trials which was composed of three sets of trials containing 14, 32 or 49 clicks. Before responding the subjects heard the response of four other subjects through the earphone. In fact, these responses were constructed by the experimenters and delivered via a tape recorder such that each subject heard the responses of a bogus majority before responding themselves (this procedure is similar to that used by Crutchfield). Out of three of the nine trials, all the bogus subjects gave the same incorrect response (unanimous majority) while on another three trials they each gave different incorrect responses (non-unanimous majority). The experimenters found that subjects conformed more when faced by a unanimous majority than by a non-unanimous majority which is consistent with the consensus hypothesis.

Let us look more closely at this experiment as detail often proves to be illuminating. In the non-unanimous condition there was disagreement amongst the bogus subjects who formed the majority. Two of these subjects gave the incorrect response and the other two gave the correct response. The fact that the non-unanimous majority did not have as much influence as the unanimous majority might not have been due to the breaking of consensus but due to the fact that two subjects gave the correct response. By giving the correct response the confederates may have been giving support to the naive subjects. This experiment therefore did not resolve the issue, that is, whether the non-unanimous majority reduces conformity because it broke consensus or because it gave the correct response thus providing social support for the naive subject.

1.3.2 Conformity and Social Support

If social support of a partner is crucial in reducing conformity then that partner would have to give the same response as the subject.

However, if merely breaking consensus is important then it should make no difference whether the person who breaks consensus gives the same or a different response as the subject. Some results noted earlier are relevant. Asch found that if one of the confederates gave a correct response (that is, broke the majority's consensus) conformity fell from the usual 32% (unanimous majority) to about 5% (Asch, 1951). Also, Asch (1955) noted that, if a confederate gave a response which was different from the majority but was also incorrect, then conformity nevertheless fell to about 9% which was similar to when the confederate gave the correct response. Asch concluded that breaking the majority consensus was the determining factor since it made little difference whether the dissenting confederate gave the correct or incorrect response. This conclusion should be treated with caution because the experiments were conducted with different prearranged patterns of responding by the confederates:

Allen and Levine have conducted a number of interesting experiments on the effects of social support on conformity. Typically, these experiments employed groups of five subjects who are required to make judgements concerning visual, information and opinion items on a Crutchfield Apparatus. Allen and Levine (1968) found that on visual items both veridical (correct response) and erroneous dissent (incorrect response but different from the majority) significantly reduced conformity as compared to a majority consensus condition which supports Asch's findings. However, the same pattern did not appear on

information and opinion items.

1.3.3 Explanations of the Social Support Effect

Evidence shows that breaking majority consensus is a determining factor in reducing conformity and two possible reasons have been suggested for this. The first explanation suggests that individuals conform to the group because they do not want to feel isolated and rejected (for example, Schachter, 1951). If it is true that individuals conform so as to avoid social isolation from the group, then one would expect that it would be crucial to have the public presence of a partner in order to reduce conformity (and hence the feeling of isolation). Allen and Bragg (1969) quoted in Allen and Levine (1971) tested this hypothesis. They found that private social support (given before the subject responded and not known to the rest of the group) was equally as effective at reducing conformity as public social support (given in front of the group), thus disconfirming the social isolation explanation.

The second explanation utilizes Festinger's theory of social comparisons. Festinger suggests that individuals have a desire to evaluate their opinions through comparing themselves with others. In this analysis individuals who break from the majority provide the subject with an independent assessment of reality. Allen and Levine (1971) hypothesize that "..... one important function of social support is to provide an independent confirmation of the individuals own appraisal of (or contact with) the physical and social world when the other group members supply anomalous information" (p.50).

Allen and Levine (1971) tested the hypothesis that social support would only be successful in reducing conformity if it was perceived as valid and hence a legitimate assessment of reality than when social support was invalid. Naive subjects were required to make a number of judgements concerning visual, informational and attitudinal items on a Crutchfield Apparatus. Before responding, subjects were informed of the bogus responses of four other subjects which were incorrect on some of the trials. The experiment was designed so that the fourth bogus response (that is, the one before the naive subject responded) dissented from the erroneous majority and gave the correct/popular response. Therefore subjects were led to believe that they were responding last in a group of five and that the person responding before them did not conform to the erroneous majority.

In one condition the confederate who provided social support "..... entered the research room wearing eyeglasses with extremely thick lenses that distorted the wearer's eyes, and gave the impression of severely limited visual ability" (p.52). The confederate reinforced the impression of a limited visual ability by failing to read a sign on the wall. Even so the experimenter stated that the person could still participate and that he could "..... answer any way you want; randomly maybe". It was thus made quite clear that this person's answers were not valid (invalid social support condition). In another condition the same confederate gave social support but did not wear glasses and appeared to have normal vision (valid social support condition).

They found that both social support conditions (valid and invalid) reduced conformity compared to the unanimous condition (that is, with no social support). However, the valid social support reduced

conformity significantly more than did the invalid social support which confirmed the main hypothesis of the experiment. The findings were consistent across the three types of judgements (visual, informational and attitudinal) which seems surprising as the factor affecting validity of judgement only concerned vision and therefore one would not expect the validity of informational or attitudinal issues to be affected. However, as the experimenters noted, informational and attitudinal items were projected onto a screen and therefore would need visual acuity to understand them.

1.4 Conformity and Culture

Since conformity is a social phenomenon then one would expect it to be affected by the culture in which individuals live. An interesting series of experiments which has examined the effects of culture on conformity has been conducted by Milgram (1961).

1.4.1 The work of Stanley Milgram

In a series of experiments Milgram compared the levels of conformity between French and Norwegian students. In a modified Asch paradigm, subjects were presented with two acoustic tones and were required to indicate which tone was the longest in duration. Before the naive subject responded he heard the responses of five confederates who gave a wrong answer on 16 out of 30 trials. Milgram found that the Norwegian subjects conformed to the erroneous majority on 62% of the critical trials while the French subjects conformed on 50% of the critical trials, this difference being significant. At first sight these rates of conformity seem unusually high (note Asch found conformity rate of 36%); however, the lack of a control condition,

where subjects respond in the absence of a majority, does not give a baseline response to which the experimental conditions can be compared.

Milgram then employed two clever manipulations designed to either increase or decrease the level of conformity. In one experiment the subjects were told that the results would be "..... applied to the design of aircraft safety signals" (p.48), thus leading subjects to believe that their responses would have implications for the safety of others. Milgram predicted that individuals would be less likely to conform to an erroneous majority when they believed that the consequence of their response was important. His prediction was confirmed; conformity decreased but Norwegians (56%) still conformed more than the French (48%).

In another experiment the naive subject was criticised by the majority when he gave a different response. The Norwegian subjects were told that "Skal du stikke deg ut?" (are you trying to show off?), while the French subjects were told "Voulez-vous vous faire remarquer?". As predicted, criticism from the majority, increased conformity but the national difference persisted (Norwegians 75%, French 59%). It should be noted that the Norwegian and French subjects received different statements which may not be entirely equivalent.

In all the experiments reported by Milgram the Norwegian subjects conformed more than the French subjects. This difference is unlikely to be due to an unrepresentative sampling procedure because Milgram went to great lengths to obtain subjects from each region of each country. Furthermore, the results are unlikely to be limited to the use of students as subjects since Milgram found that 40 Norwegian

industrial workers responded similarly to the Norwegian students.

Milgram suggests that the results may be due to cultural differences between the two countries. He states that "Norwegians have a deep feeling of group identification, and they are strongly attuned to the needs and interests of those around them it would not be surprising to find that social cohesiveness of this sort does go hand in hand with a high degree of conformity" (p.51). While the French show " far less consensus in both social and political life the high value placed on critical judgement often seems to go beyond reasonable bounds; this in itself could account for the comparatively low degree of conformity we found in the French" (p.51).

1.4.2 Comparison of Results Across Time

Other evidence claiming a cultural effect on the conformity process has been reported by Larsen (1974). In an experimental replication of Asch and using American subjects he found a conformity rate of only 19.8% compared to Asch (1956) 36.7%. Larsen claims that the difference is due to the fact that when Asch conducted his experiments during the 1950's "McCarthyism was active, a period known for its unobtrusive students" (p.363). In other words, Larsen claims that subjects in the Asch experiments (1950's) experienced a culture which emphasised conformity behaviour to a greater extent than did those in his own experiment (early 1970's). Further research added more weight to his argument. Larsen et al. (1979) found that after the Vietnam war, when students became less politically active and concerned with preparing for a career, conformity rates were very similar to those found by Asch. Larsen assumes that the post-war Vietnam culture is

comparable to that of the 1950's in the extent to which it favoured conformity.

However, these results were not consistent with those of Perrin and Spencer (1981) who found that amongst British University students there was almost zero conformity on the Asch paradigm. In fact, only one response out of 396 trials was in agreement with the erroneous majority. However, they found conformity similar to the level found by Asch when the subjects were probationers and the majority were probation officers or when the subjects were unemployed West Indian youths and the majority was their peers. This, Perrin and Spencer suggests, shows that conformity is due to ingroup cohesion where individuals conform to a group they value so as to remain part of that group.

Doms and Van Avermaet (1981) criticize Perrin and Spencer by stating that a failure to replicate the Asch effect does not necessarily imply the absence of conformity, it may be that the Asch paradigm is no longer suitable for investigations into conformity. They cite evidence from their own research conducted between 1975/81 in Belgium which employed a modified Asch paradigm which showed conformity levels similar to Asch, although some have argued that this 'modified' paradigm is not comparable to the original Asch experiments (Spencer and Perrin, 1981).

1.4.3 Comparisons of USA and UK rates of conformity

Recently Nicholson, Cole and Rocklin (1985) have suggested two possible reasons why Perrin and Spencer found lower conformity amongst

British subjects with the Asch paradigm. First, it could be due to historical differences (1950's vs 1980's), that is a time effect, or second, cultural differences (UK vs USA subjects). To test these hypotheses, British and American students took part in a replication of the Asch experiment. However, instead of showing the lines on a card (as Asch did) the lines were displayed on a television monitor and were half the size employed by Asch. This method, claimed the experimenters, is comparable to the Asch situation.

They found that there was no difference between the American and British subjects (which disconfirms the cultural hypothesis). Also, the conformity rate of the American and British subjects (8.58%) was significantly lower than that found by Asch (36.7%) which confirms the historical hypothesis. Finally, they claim that the conformity rate displayed by the American and British subjects was significantly greater than zero which is inconsistent with the results of Perrin and Spencer who found zero conformity in their experiment (although it should be noted that their subjects were ^{engineering} students who presumably were experienced at estimating lengths of lines). The authors attempt to explain the latter finding by suggesting at the time the experiment took place in May, 1983, Britain was involved in the Falklands war which may have increased the feeling of cohesion and hence the rate of conformity compared to before the war when the Perrin and Spencer experiment took place.

The Nicholson et al. experiment can be criticised on at least three counts. First, Asch employed a majority consisting of 7-9 confederates whilst the Nicholson et al. study only used three, hence differences in results could be due to differences in majority size (assuming that subjects will perceive more social 'units' as a

function of majority size, see section 1.4.4). Second, Nicholson et al. displayed the lines on a television monitor whilst Asch used a piece of card. Although the mode of presentation may not have made a difference, Nicholson et al. halved the size of Asch's lines so they would fit onto a screen. Reducing the size of the lines also reduces the comparative differences between them and hence increases the ambiguity. This is problematic as Asch had previously found that reducing the difference between the lines increased conformity. Third, it is unclear in the Nicholson et al. study exactly what the difference is between historical and cultural factors. I would argue that, to a certain extent, these concepts are interchangeable: thus, are historical differences not also cultural differences ?

1.4.4 Evaluation of Studies Investigating Culture and Conformity

In conclusion, these studies suggest that conformity can be affected by culture but they do not provide clear evidence to suggest a causal relationship. I would like to suggest that such a relationship would be difficult, if not impossible, to demonstrate experimentally.

Comparisons across experiments are problematic because variables, such as majority size, have not been held constant. Finally, it is dubious whether a cultural explanation of conformity would be of value from a heuristic point of view. It is worth noting that this body of research has not been integrated into a theoretical perspective.

Presumably a cultural explanation of conformity would emphasize the role of the social environment and be essentially sociological in nature. Without dismissing the importance of such a perspective, this does not answer the basic psychological question of why people conform

and through what processes.

CHAPTER 2 : MINORITY INFLUENCE - THE PROCESS OF INNOVATION

2.1 From Conformity to Innovation

The first chapter considered how majorities have influence through the process of conformity. In this chapter I will discuss how minorities can have influence through the process of innovation. Nearly all the research conducted into social influence during the 1950's and 1960's had focused on conformity (Allen, 1965), that is, how the majority influences the individual. Such a perspective characterises influence processes as being unilateral in nature (that is, always flowing from the majority to the individual). This perspective forms the basis of the Functionalist approach which utilizes the concept of dependency as the only cause of influence, individuals being seen as dependent upon the majority for information to evaluate their own opinions and/or for the psychological benefits others can supply (see section 1.2.1).

In the Functionalist model deviancy is seen as dysfunctional and the aim of social influence processes is seen as getting deviants to agree with the majority. If this cannot be achieved then the deviant will be expelled from the group or ignored. Implicit in this system is that the majority norm always persists. But are norms consistent over time or are they continually changing? The answer to this question is, of course, partially subjective although most people would recognise that accepted attitudes have changed over time, for example,

consider the difference between pre-war and present day attitudes towards pre-marital sex.

Moscovici and his colleagues were the first to recognise the limitations of the Functionalist approach (Moscovici, Lage and Naffrechoux, 1969; Moscovici and Fauchoux, 1972; Moscovici, 1976). They refer to this earlier research as having a 'conformity bias' which fails to consider whether the individual (or minority) can influence the majority. As an alternative to the Functionalist model, Moscovici has proposed a Genetic model which suggests that both a minority and a majority enjoy a reciprocal influence relationship. The Genetic model thus envisages social influence processes as being bilateral in nature.

The theoretical differences between the Functionalist and Genetic models will be expanded upon later in chapter 3. At this stage it is important to examine what each model proposes as the source of minority influence. Although, in principle, minority influence is not possible in terms of the Functionalist model, an explanation has been proposed by Hollander (see below section 2.2.21).

2.2 Sources of Minority Influence

2.2.1 Behavioural Style as a Source of Minority Influence

If a minority can influence the majority its source of influence is unlikely to be the dependency of the recipients of the influence attempts, as, by definition, the minority lacks many of the attributes necessary to exert pressures towards conformity (for example, power,

) status, size). As an alternative, Moscovici et al. (1969) have suggested that a minority's influence is rooted in its behavioural style which refers to the "..... way in which the behaviour is organized and presented to provoke the acceptance or rejection of a judgement the fact that it maintains a well defined point of view and develops it in a coherent manner" (p.366).

) A key aspect of behavioral style is consistency, "By insisting on [an answer]" suggest Moscovici et al. "a minority will not only engender a conflict, but will intensify the conflict, because it poses its own judgments and opinions as having the same value, as being equivalent to those of the majority" (p.367). By being consistent the minority becomes 'visible' in the group and blocks group locomotion (Festinger, 1950), thus creating two types of conflict: one cognitive (from an increase in response diversity) and the other social (from the threatened interpersonal relations in the group). The outcome of this conflict is to make the majority question and then possibly reject its own position and infer that the minority is correct.

) Moscovici has often drawn upon historical figures to back up his theory, for example, individuals such as Galileo, Hitler, Marx, Freud or Jesus all espoused positions which were considered deviant at the time but subsequently had profound influence. As the Genetic model suggests the key to their influence may have been due to the fact that they consistently stuck to their position even when physically abused. One wonders if they would have had as much influence if they had sometimes suggested that they might have been wrong.

) 2.2.11 Early Studies of Minority Influence

In the development of research into minority influence two researchers have played a prominent role namely, Serge Moscovici and Charlan Nemeth. In this section we shall examine some of their early experiments which laid the foundation for future research.

2.2.111 The Work of Serge Moscovici

We have already considered the contribution Moscovici has made in turning attention away from the study of majorities to the study of minorities. In this section we will examine some of the empirical research he has conducted to support his position. The Moscovici et al. (1969) experiment is often cited as the first study of minority influence but in fact this accolade is held by an earlier study by Faucheux and Moscovici (1967). This experiment has almost been 'lost' in the research literature and is rarely quoted (probably because it was written in French, although it is translated into English in Moscovici and Faucheux, 1972). Some attention will be given to this experiment because it demonstrates an important point.

Faucheux and Moscovici showed subjects a series of drawings which varied on four dimensions (size, colour, shape and line). They were then shown a series of 64 drawings and they were told that while for each drawing there would be four possible answers (as there were four dimensions) they were required to give the answer which was most appropriate for that particular drawing. Groups of four or five subjects gave their answers orally and also wrote them on a piece of paper. In the experimental groups a confederate always gave the 'colour' answer. Since there were 64 trials with four possible

answers one would expect that if the subjects were responding at random then each response should be selected 25% of the time (in this case 16 trials). In the control condition, when no confederate was present, the number of 'colour' responses was 15.28 which is close to the expected figure if subjects respond randomly. However, in the experimental conditions, where a confederate always responded 'colour', the number of 'colour' responses by the subjects was 20.89 which is significantly higher than in the control condition.

The point I would like to raise concerning this experiment is whether or not it constitutes a study of minority influence. Since the subjects were informed that all four responses were correct (and the task was not ambiguous) then they may not have believed that the confederate was holding an anti-normative position and therefore being deviant. A further problem is that with a total of only 14 subjects (8 in the experimental groups and 6 in the control groups) statistical testing becomes difficult.

One of the first experiments to quite definitely demonstrate that a minority can influence a majority was conducted by Moscovici, Lage and Naffrechoux (1969). They presented to a group of six female subjects slides which were objectively blue and only differed in their light intensities. The subjects were required to report aloud the colour of the slide (either blue or green) and an estimate of its light intensity on a five point scale. Under these conditions subjects gave only 0.25% 'green' responses to the slides, thus showing that nearly everyone saw the slides as blue. However when the group contained two confederates (a minority) who were instructed to respond 'green' to every slide, the naive subjects gave 8.42% 'green' responses which was significantly higher than the control condition (no confederates).

In another condition, the confederates were inconsistent, that is, they responded 'green' to 24 slides and 'blue' to 12 slides (in a randomized order). Naive subjects under these conditions gave 1.25% 'green' responses which was not significantly different from the control condition. The experimenters claim that these results show that a minority can influence a majority and that it is a consistent minority which is influential; when inconsistent the minority exerted no influence.

2.2.112 The work of Charlan Nemeth

The experiments by Moscovici et al. were important in demonstrating that it is the maintenance of the minority's position which helps it to exert influence. They concluded that it is the minority's consistent behaviour which causes a conflict within the majority because it portrays its own judgements as being equivalent in value to that of the majority's. However the idea of maintenance of position appears to be more subtle than mere repetition of responses. Nemeth, Swedland and Kanki (1974) have suggested that it is not the repetition per se which allows the minority to be influential, rather it is the perception that the minority has a position of which it is convinced. They hypothesized that this perception of the minority's position should not be dependent upon the minority being repetitive but by it creating a consistent pattern of judgements.

To test these ideas Nemeth et al. employed a similar paradigm as did Moscovici et al. (discussed above in section 2.2.111): except that they used male subjects. In some of the conditions the confederates were not repetitive in their responses but said 'green' on 50% of the

trials and 'blue' on the other 50% of the trials. In one condition this was randomized (random condition), in two other conditions the responses were patterned according to the brightness of the slides, that is either 50% 'blue' to the lighter slides or 50% 'blue-green' to the darker slides or vice versa (correlated conditions). They found that the correlated conditions produced the most influence and that they were significantly more effective than a 100% 'green' response (consistent minority). Furthermore this result was significantly different from the control condition (no confederates). This suggests that it is the patterning of judgements which may be the basis of minority influence. The experimenters concluded that "..... the minority must be seen as having a position in which they believe, one of which they are firmly convinced. It is such attributions which cause the majority to focus on the minority position, to question their own majority position" (p.61).

The results of the Nemeth et al. experiment, at first sight, seem to be contradicting those of the Moscovici et al. experiment since the latter study found no effect for an inconsistent minority while the former did. However, the confederates in Moscovici's inconsistent condition gave their responses in a randomized order; had they patterened their responses as in the Nemeth experiment, they might have been influential.

2.2.12 From Conflict to Attribution

While Moscovici et al. stressed the role of conflict in causing minority influence, Nemeth et al. have emphasised the attributional consequences of behavioural style. The synthesis of these ideas was

achieved in a paper they jointly authored (Moscovici and Nemeth, 1974).

In this paper the definition of behavioural style has changed to take into account the role of attribution "..... behavioural styles are a purposeful arrangement of verbal and/or nonverbal signals which furnish information about the internal state and the intentions of the person who displays them" (p.234). Since a minority is, by definition, distinctive (in the sense that it holds anti-normative views) these signals should result in inferences concerning personal causation (Kelley, 1967). In other words individuals will infer that the minority is "..... operating from their own belief system or peculiar personality" (p.243).

The above definition of behavioural style suggests that there may be several important individual behavioural styles but the one which appears to be the most important and has received the most attention is consistency. Consistency does not imply the mere repetition of responses but the patterning of responses to cause the majority to infer that the minority is certain and sure of its position. In fact, response repetition may lead to attributions of dogmatism which may block social influence processes.

2.2.121 Non-Verbal Behaviour as a Behavioural Style

One important aspect of the definition provided by Moscovici and Nemeth is the inclusion of non-verbal signals as a potential individual behavioural style. To my knowledge only one experiment has investigated the effects of non-verbal cues on minority influence. This experiment was conducted by Nemeth and Wachtler (1973) and examined the non-verbal cues associated with seating arrangements. In

this experiment five male subjects sat around a table and acted as a jury. They were given a summary of a case to read concerning a person who was suing an insurance company for injuries caused while at work. The facts of the case were weighted so as to encourage subjects to award high compensation to the individual. In fact, when subjects were alone they awarded on average \$14,500 (the maximum allowed by law was \$25,000). In the experimental groups, one of the five subjects was a confederate who consistently advocated that the individual should receive only \$3,000 compensation which was much lower than the normative award and therefore can be considered to be a minority position.

Previous research on jury trials has shown that seating position can affect an individual's ability to exert influence. It has often been found that the person who sits at the head of a rectangular table talks the most and exerts the most influence (presumably because they are perceived as leaders). Nemeth and Wachtler reasoned that, if a person was seen to choose to sit in the head seat he or she will be perceived as being more confident and have more influence than someone who did not choose the head seat but was assigned to it. The difference between these two conditions is that in the former the confederate is seen to want to sit in the head seat (chosen head seat condition), in the latter it is a chance happening (assigned head seat condition). Nemeth and Wachtler stress the importance of the non-verbal cue of being seen to choose the head seat as contributing to the confederate's behavioural style.

The results confirmed their hypotheses; the confederate only influenced the subjects when he choose the head seat; when he was assigned to the head seat there was no difference from the control

condition (no confederate present). They also found, in a subsequent experiment using the same jurors, that naive subjects who had been in the chosen head seat condition gave a smaller compensation than those naive subjects in the assigned head seat condition. This shows that the influence exerted by the confederate in the chosen head seat condition generalized to a similar jury case in which no confederate was present.

The results of the post-experimental questionnaire gives a good account of how the subjects perceived the confederate. The confederate, irrespective of condition, was seen as more consistent, independent, active, central, strong-willed, as a leader and more confident than the naive subject. However, the confederate was seen as less reasonable, fair, perceptive, warm, cooperative, liked, admired and wanted as the naive subject. Although the confederate was seen as confident and committed they were not liked or admired by the subjects. Finally, the confederates who chose the head seat were seen as more confident than the confederate who was assigned the head seat demonstrating the effect the non-verbal behaviour had on the perceived behavioural styles.

2.2.13 Behavioural Styles and Negotiating Styles

The research considered in this chapter so far strongly suggests that the source of minority influence is located in its ability to cause the majority to attribute a consistent behavioural style. Since minorities are often rejected by the majority (because they are viewed as deviant) the minority has to negotiate its influence, that is, influence does not occur straight away but over time. There is

evidence that minorities have more influence on later trials than on earlier ones (for example, Nemeth et al., 1974). The concept of negotiation also suggests that the image of the minority is an important factor in determining the attributions made (by the majority) and hence the resulting influence. This last point forms the core of chapter 4.

The experiment by Nemeth et al. (1974) considered in section 2.2.112 demonstrated that a patterning style of responding, where influence is not dogmatic but allows other responses to be considered, can be more effective than mere repetition. This is likely to be so because a patterning or negotiating style, while maintaining confidence and certainty, allows the target of influence 'room to breathe'.

2.2.131 The Work of Gabriel Mugny

Mugny was one of the first psychologists to recognise the importance of the concept of negotiation to the process of minority influence by making a theoretical distinction between negotiating and behavioural style. Mugny (1975) reasoned that "..... there is a dichotomy in the behaviour involved in interaction. There is the behaviour which the minority adopts in relation to the 'majority norm' and there is the behaviour which it adopts with respect to the 'population' which it wishes to influence" (p.210). Mugny proposes two styles of negotiation. A rigid style is one in which "..... its demands go beyond the bounds of possible acceptance by the population, a style which refuses to compromise on any point whatsoever" (p.211). A negotiating (referred to in later papers as a flexible or fair style) is one which "..... is more flexible and adapts to the population,

accepting certain compromises" (p.211),

Mugny reasons that, if consistency is held constant, then one would expect a flexible style to have more influence than a rigid style because the latter blocks the process of negotiation due to its refusal to accept compromise. In Mugny's experiment, subjects completed a questionnaire concerning the Swiss army before and after hearing a talk by a person who portrayed an extreme ant-militarist position (the minority). The negotiation variable was manipulated by delivering sentences which contained the same information in slightly different ways. For example, a rigid minority would state "..... we think that means such as 'conscientious objection' are false, personal, 'petit-bourgeois' and quasi-reactionary. As we have said before, we think that it is necessary to fight the army from within" (p.217). The flexible minority would state "..... we think that conscientious objection which is collective and organized is a good and valuable way of fighting the army. I simply wanted to say that we also think it important to contend against the army from the inside" (p.217). As predicted the results showed that the flexible minority had more influence than the rigid minority (in fact, the latter had a slightly negative effect).

After the experiment the subjects were given a list of 40 adjectives which were grouped into four categories ('consistent', 'inconsistent', 'flexible' and 'rigid') and were asked to tick each adjective which applied to the source of influence. The results showed that there was no difference in the number of 'consistency' and 'inconsistency' adjectives chosen for flexible and rigid minorities. However, the flexible minority received more 'flexible' adjectives than the rigid minority while there was no difference on the 'rigid' adjectives.

Although the value of a theoretical distinction between negotiating styles can and behavioural be recognised, it could be argued that the two concepts are not mutually exclusive and that it is difficult, if not impossible in practice, to hold one constant while varying the other. Mugny would argue that he held consistency constant by the fact that there was no difference between the rigid and flexible minorities on the number of 'consistency' and 'inconsistency' adjectives chosen. However, this argument should be treated with caution as the number of adjectives chosen may be a poor indicator of how the subjects perceived the image of the source of influence, especially if one considers the well known 'halo-effect'.

2.2.2 Dependency as a Source of Minority Influence

2.2.21 Hollander's Theory of 'Idiosyncrasy Credits'

Hollander (1958, 1964) proposes a two stage process by which an individual can influence the group. First, the individual must conform to group expectations in order to achieve "idiosyncrasy credits" which Hollander (1958) defines as "..... an accumulation of positively disposed impressions residing in the perceptions of relevant others; it is defined operationally in terms of the degree to which an individual may deviate from the common expectancies of the group" (p.120). Credits are also ^{acquired} by displaying competence and assisting the group in achieving its goals (similar to Festinger's concept of group locomotion). Second, when enough credits have been accumulated the individual is then in a position to deviate successfully and influence group members. In short the theory states that, having first conformed to the group, the individual acquires

enough positive impressions (that is, credits) to allow him/her to deviate successfully from the group. Such an explanation is, of course, couched in terms of conformity and dependency (note that there is a similarity between Hollander's and Levine's analysis of minority influence, see section 3.2.14).

Hollander (1960) claims some experimental evidence in favour of his position. In his experiment five subjects were given a 7x7 matrix which contained various payoff rewards. The subjects were required to choose a row which gave the highest pay-off in conjunction with the column chosen by the experimenter. Since the subjects did not know the column the experimenter would choose before they made their row choice, the level of pay-off was largely random. One of the subjects was, in fact, a confederate who deviated from the group either before trial 1, 6 or 11 (there were 15 trials). Whichever row the confederate picked, the experimenter would choose the column which gave the maximum payoff. Therefore subjects were exposed to successful non-conformity (in that the deviant's row choice received the highest possible payoff) either from the beginning, middle or end of the experiment. Before the confederate deviated, he gave the typical group response (based on previous responses). As predicted, Hollander found that the longer the confederate waited to deviate (and hence the more credits he or she had accumulated by first conforming to the group) the greater was his or her influence.

Wahrman and Pugh (1972) have noted a number of problems in the Hollander study, the most important of which is the apparent confounding of the duration of conformity by the duration of non-conformity. Hollander controlled the length of non-conformity to 0, 5 or 10 trials, but, since the experiment ended after 15 trials,

the length of conformity varied, that is 15, 10 or 0 trials respectively. In a partial replication of Hollander's study, Wahrman and Pugh⁽¹⁹⁷²⁾ found that subjects were strongly influenced by non-conformity which was "..... greater than, or at least equal to, the influence exercised by confederates who delayed non-conformity while contributing competent behaviour to the group's joint effort" (p.380). In other words, deviating from the beginning was more influential than first conforming to the group (and acquiring credits) followed by deviating.

Wahrman and Pugh suggest that the difference in results between their own study and that conducted by Hollander, could be due to the use of different subject populations. While Wahrman and Pugh used "liberal arts majors", Hollander employed engineers who may have been more stimulated by the matrix since their studies involve more mathematical knowledge than that of arts courses. Wahrman and Pugh claim that this difference may have led subjects to view the experiment in different ways, with the effect that their own subjects may have "..... surrendered from the beginning any thought that they would master the matrix and were willing to accept the influence of anyone who thought he had half a chance" (p.384). On the other hand, Wahrman and Pugh suggest that Hollander's subjects may have "..... resented the early confederate's behaviour and given that they had greater self-confidence decided to show him that they could get along without his suggestions" (p.384).

2.3 Experiments Comparing Behavioural Styles Versus Dependency as Sources of Minority Influence

2.3.1 Early Versus Late Non-conformity

According to Hollander's theory a minority must first conform to the group before it can successfully deviate from that group and influence the group members. In contrast, Moscovici has suggested that early conformity to the group is not a prerequisite for successful minority influence; in fact, minorities tend to be more successful the earlier they begin non-conforming (note that the Wahrman and Pugh experiment considered in the last section supports Moscovici's prediction). It is quite clear that there is a difference in predictions; Hollander predicts that minority influence will be greater with late non-conformity (which follows initial conformity) while Moscovici advocates early non-conformity as the most successful strategy.

Bray, Johnson and Chilstrom (1982) have tested these different predictions. In their experiment groups of four male college students were required to come to a unanimous agreement on four separate problems. The problems were very different; the first problem concerned whether the University should remove the health fee and make students pay for each visit to the health clinic, the second problem was a complex word puzzle which required subjects to calculate the number of sexual contacts in a hypothetical group; the third problem was about reducing the frequency of publishing the campus newspaper; and, finally, the fourth problem concerned stopping the University providing students with free tickets to athletic events. The first, third and fourth problems were opinion items and subjective in nature while the second problem had a correct answer.

Out of the group of four subjects one was a confederate who argued a minority position (the confederate always spoke last). The

confederate either initially conformed to the group decisions on the first and third problems and then deviated on the fourth (the Hollander strategy) or he deviated on the first, third and fourth problems (the Moscovici strategy). Influence was measured by the extent subjects agreed with the confederate on the fourth problem. Another variable the experimenters were interested in was competence, this was manipulated by the confederate either solving or not solving the word puzzle in problem two.

The results showed that the Hollander strategy had more influence than the Moscovici strategy. Surprisingly, there was no main effect for competence. However, it was found that the Hollander strategy was more effective when the confederate was competent than when he was not competent.

The experimenters noted a number of problems in their design. They point out that using a minority of one may have led subjects to attribute the minority's behaviour to some idiosyncrasy (for example, a bias). There is a lot of evidence which suggests that there is an initial desire to attribute deviant behaviours to internal causes. Also, in Moscovici's experiments the confederates spoke first and fourth in the group and not last as they did in the Bray et al. experiment. In an attempt to overcome these problems Bray et al. conducted a second experiment which used a similar procedure as the first experiment, except that the group contained six individuals, two of which were confederates who spoke in the first and fourth positions (this is the same set up as in the Moscovici et al. experiment considered in section 2.2.111). A further difference from the first experiment was that the experimenters employed groups of male and female subjects.

The results of the second experiment were very interesting. They found that males were more influenced than females. Also, the Hollander strategy was more effective than the Moscovici strategy but the difference was not very strong ($P < 0.08$). Furthermore, the difference between the strategies was significant for males but not for females. The experimenters' explanation for this sex difference was that the female confederates may have had a "less assertive style" (p.87). In other words, females might have been influenced less than males because the female confederates did not display an assertive behavioural style.

Although Bray et al. found the Hollander strategy to have more influence it does not mean that the Moscovici strategy has no effect, as they point out "..... comparisons showed that both the Hollander and Moscovici models influenced subjects' opinions significantly relative to control individuals who did not receive any influence attempt" (p.87).

To summarize, initial evidence by Hollander (1960) supported the dependency perspective. However, a partial replication by Wahrman and Pugh (1972), discussed in section 2.2.21, found early non-conformity lead to more influence than late non-conformity - the opposite to Hollander! A recent experiment by Bray et al. (1982) which compared both strategies found more evidence for a Hollander strategy but could not rule out the Moscovici strategy. It appears that evidence in this area is mixed and does not exclusively support any one perspective. Whilst a number of researchers have compared Hollander's theory with that of behavioural styles, Moscovici (1985) has raised serious doubts over such a comparison: "Hollander's hypotheses are concerned with

leadership and not with minorities; they deal with innovation from the point of view of authority. This is not the case with our hypotheses. Therefore the two are not, as they have been represented, alternative models of minority influence" (p.39)

2.3.2 Behavioural Style Versus Cohesion

It was noted earlier that the Functionalist model was unable to account for minority influence because this would require the unusual situation of a majority being dependent upon the minority (see section 2.1). However, Wolf (1979) has attempted to explain minority influence in terms of dependency by claiming that it is possible to view both the majority and the minority as being dependent upon the group itself since "..... the group satisfies certain needs or to the extent that members desire to remain in the group" (p.382).

This explanation is similar to Festinger's concept of 'pressures towards uniformity' except that individuals are dependent upon the group rather than the source of influence. The prediction is that minority influence will "..... vary with the magnitude of the members' dependence not upon the influence agent but upon the group as a whole" (p.382). This places importance upon group variables, such as cohesion and group membership as determining factors, rather than factors, such as behavioural style pertaining to the source of influence.

Wolf (1979) tested the prediction that a deviant would have more influence when it was in a high cohesive group than when in a low cohesive group (the implication being that cohesion increases group

dependency). In her experiment, four female subjects were led to believe that they were interacting as a jury and that their task was to decide upon the compensation to be awarded to a plaintiff in a civil suit. The facts of the case were weighted so as to encourage the subjects to award between 20,000 and 30,000 dollars. The subjects, after hearing the case, wrote down the amount of compensation they wanted to award on a note. To simulate deliberation, the notes were shown to each member of the jury, there were four rounds of note taking. In fact, the experimenters arranged for each subject to receive notes which stated a compensation sum linked to the subject's own judgement; one note stated 3,000 dollars more and one 2,000 dollars less than the subjects own judgement. The fourth note was that of the deviate who always advocated an award of 3,000 dollars throughout the experiment. Therefore subjects were led to believe that they were members of a majority whose awards differed by only 5,000 dollars whilst a deviate always maintained an award of 3,000 dollars.

Three variables were manipulated. The possibility of rejection manipulation was achieved by informing subjects that the experimenters wanted to compare the deliberations of four-membered and three-membered juries. The elimination of the individual would either be by a random procedure (no possibility condition) or by a group vote (possibility condition). Cohesion was manipulated by giving subjects false feedback from 'liking' scores they had made of each other before the experiment. Consistency was manipulated on the fourth note by the deviate juror ending with "I still think that 3,000 dollars is the fairest judgement" (high consistency) or with "I thought 3000 dollars was the fairest judgement, but now I'm not so sure" (low consistency).

The results showed that the subjects in the high cohesive conditions reduced their rewards in the direction of the source of influence to a greater extent than subjects in the low cohesive conditions. The greatest influence was found in the high cohesive/ high consistency/ no possibility and the high cohesive/ low consistency/ possibility conditions. Furthermore, the results were paralleled on four measures of latent influence which examined the cognitive-perceptual effects of the minority on the subjects judgements. It can be noted that the Genetic model would make a different set of predictions, a main effect would be expected for consistency and also a consistency/ possibility of rejection interaction since consistent behaviour, with the possibility of rejection, would increase the attributions of confidence and commitment. No main effect would be expected for group cohesiveness since the behavioural style of the deviate member was identical in each condition.

Wolf concluded that her findings could be interpreted in terms of a dependence model derived from Festinger's (1950) analysis of social groups. However, implicit in Festinger's model is that pressures towards uniformity are always resolved in the direction of the minority. Deviant members are forced to either adopt the majority position or be expelled from the group. Wolf argues for a third option, the majority moving towards the minority position.

Wolf provides an interesting idea of how dependency can cause minority influence although such a position creates many conceptual problems. It may be true that in some situations dependency may be a causal factor, especially when such factors as cohesion and group membership are salient. For example, when group membership is so highly valued

)
that any influence is accepted in order to retain membership of the
desired group. However, there is a problem of both experimentally and
) theoretically differentiating between dependency and behavioural
style. It is important to note that it is the interpretation of
behavioural styles which is crucial; therefore, why shouldn't the
) level of cohesion in a group or group membership affect the perceived
behavioural styles ?

2.3.3 Behavioural Style Vs Status Characteristics

) ○ A paper published in the Social Psychological Quarterly by Lee and
Ofshe (1981) has stimulated a lively debate. Upon closer examination,
the experiment reveals that it provides a comparison between
) behavioural style and status as causal factors in social influence
processes (although it should be noted that minorities usually lack
status). This experiment will be considered in some detail as it
) considers an explanation of minority influence which has not been
proposed before.

) ○ In the experiment Lee and Ofshe attempted to test two theories which
make different predictions concerning the nature of the causal factor
which determines social influence. The first theory is referred to as
) the Theory of Status Characteristics which states that "..... each of
the known or observable status characteristics by which members might
be distinguished (age, race, gender, and occupation) is associated
) through prior learning with beliefs about differences and qualities of
intelligence" (p.74). In other words, from experience individuals
) believe that there is a positive correlation between status and
intelligence which "..... leads each member [of the group] to the

conclusions that the solutions by the higher social status members are more likely to be correct" (p.74).

Note that the above theory has similarities with Hollander's theory of 'idiosyncrasy credits' (see section 2.2.21). While Hollander states that an individual has to conform first in order to acquire such credits, the status characteristics theory explains how such credits (at least status) lead to influence.

The second theory which Lee and Ofshe consider, is termed the Two-Process Theory. This theory suggests that "..... when internal cues are weak or unclear (for example, confidence is low) individuals' behaviour is regulated through responses to stimuli present in the environment" (p.76). When the stimuli are other people, individuals are guided by the behaviour of others (similar to Festinger's theory of Social Comparison). One factor which can affect this process is demeanour since "..... an assertive display by one party causes a deferential response in the other parties to the interaction part of which is agreement to the substance of the assertive party's argument" (p.77). In other words, having an assertive demeanour causes other individuals to imply that the person is sure of him or herself and acts as a guide for other people's behaviour. This, of course, is similar to Moscovici's concept of behavioural style.

It is important to note that the status characteristics theory and the two-process theory are dependent upon individuals having a low confidence in their behaviour. However, it has been shown that minorities can influence individuals when they were initially confident of their position (consider the Moscovici et al. experiment in section 2.2.111).

In Lee and Ofshe's experiment, male and female subjects were required to read a description of a jury case and make a judgement concerning the amount of award they would give an injured person. They then viewed a videotape which showed three males discussing the case in which two of them argued for awards of at least 15,000 dollars whilst the third person argued for 2,000 dollars (these individuals were confederates of the experimenter). This case was the same as that employed by Nemeth and Wachtler (1974) in which the arguments were weighted to give a reward around the 15,000 dollar level. Therefore the person arguing for 2,000 dollars held an anti-normative position and was also numerically a minority.

The status variable was manipulated by displaying the occupation of the confederate on the video whenever they talked. Two sets of occupational labels were used reflecting differing degrees of status, for example, chemical engineer, draftsman and office boy. The demeanour variable was manipulated through changes in the minority individual's non-verbal behaviour. Three levels of demeanour was employed; 'Deference - Demanding' where the individual spoke with "..... firm voice..... more loudly few hesitations"; 'Deferential' where the individual "..... spoke more softly and slowly greater hesitations pauses in speech frequently stumbled over words movements indicated nervousness", finally 'Neutral' demeanour was "..... intermediate rate and volume with an intermediate number of hesitations" (p.78). The two individuals who always advocated 15,000 dollars always used the neutral demeanour. After viewing the video subjects made a second judgement concerning the award.

The experimenters found that occupational status had no effect on the minority's ability to exert influence while demeanour did have an affect with the Defence-Demanding having significantly more influence than the Neutral and the Deferential. These findings led the experimenters to conclude that "..... status knowledge alone has no significant effect on how much observers are influenced. Variations in demeanour, however, significantly affect observers' decisions" . This result is consistent with Moscovici's analysis of minority influence.

A number of researchers have questioned Lee and Ofshe's experiment which has led to heated controversy. Only the important criticisms will be considered in the following discussion. First, Greenstein (1981) has claimed that Lee and Ofshe have not met the conditions necessary to test the status characteristics theory, namely, having subjects in "collectively - orientated groups" (note that subjects in Lee and Ofshe's experiment viewed a group discussion and did not take part in one). Ofshe and Lee (1981) responded to this criticism by stating that "To defend the theory, Greenstein must at least develop a compelling argument that the manner in which status knowledge is utilized is profoundly affected by the presence or absence of group orientation" (p.384). Second, Berger and Zelditch (1983) note that part of the demeanour manipulation involved varying the confederates dress which might have affected the status variable. In other words, variations in demeanor also varied status cues thus causing a confounding between the two variables.

Third, both Berger and Zelditch (1983) and Nemeth (1983) have noted that the demeanour variable might have had more effect because it was more salient than the status variable. Also, there were other

differences between the variables which might be able to account for the findings. Berger and Zelditch refer to status cues as being 'indicative' or implicit (that is, only an occupational label on the screen) and to demeanour cues as 'expressive' or explicit. In a similar vein, Nemeth refers to demeanour cues as being multi-dimensional (that is, ranging over many variables, such as tone of voice, dress) and to status cues as being uni-dimensional. Lee and Ofshe's results could be due to either the 'overstacking' of the demeanour variable or other differences between the cues rather than their theoretical significance. Ofshe and Lee (1983) counter this criticism by stating that the differences in cues reflected the salience of cues found in 'real life'. However, such an argument ignores the basic rule of experimentation that whenever two variables are being tested they should be equal in terms of salience and expression.

Fourth, and perhaps the most important criticism, has been voiced by both Nemeth (1983) and Sherman (1983). These researchers have questioned whether status and demeanour can be separated and whether inferences about status can be based on demeanour. It seems quite reasonable to predict that high status individuals also have an assertive demeanour.

The last criticism I would like to consider has not been noted by the researchers but has important implications for this thesis. It can be recalled that Lee and Ofshe used male and female subjects, therefore for the male subjects they always viewed a same sex minority but female subjects viewed a different sex minority. Such variation in group membership of the minority will be shown in chapter four to be very important in determining social influence. Unfortunately, Lee

and Ofshe do not report any sex differences in their data.

2.4 The Hidden Impact of Minorities

When considering the impact of influencing attempts on attitude change it is often useful to make a distinction between change which occurs at the public level with that which occurs at the private level. In fact, it is possible to have any combination of change occurring at these two levels, that is public but not private, public and private, not public but private and neither public nor private. Obviously the last combination occurs when an individual totally resists influence and therefore no attitude change has occurred (some researchers would refer to this as being independent). Kelman (1958) was one of the first psychologists to recognise the fact that influence can occur on these two levels and he has outlined three situations of attitude change.

Kelman refers to public as opposed to private change as 'compliance'. Most people have experienced such a situation, for example, when people publicly agree with someone (often an authoritative figure) whilst retaining their true beliefs in private. Compliance is usually governed by the ability of the source of influence to either reward or punish the target of influence and this is therefore not a situation resulting from minority influence (as a minority usually lacks the ability to reward or punish). Kelman's second situation is called 'identification' and this occurs when an individual publicly agrees with the group because he or she values the membership of that group, but private change is only temporary and dependent upon group membership. This is a situation that can often be observed with groups

of people who spend a long time together (for example, taking a college course) where a common belief system develops until the group parts. Identification is governed by the value individuals place upon being in the group. The third and final situation Kelman refers to is 'internalization' where attitude change has occurred at the public and private level, in other words, a true permanent change has occurred. Such a situation can be achieved by a minority but it would require an individual to agree publicly with a minority and risk being seen as 'openly deviant'.

Kelman has outlined two of the combinations of the public and private levels considered earlier; 'compliance' - public but not private, 'identification' and 'internalization' - public and private change (though private change is only temporary with identification). This leaves only one combination unaccounted, namely, not public but private change and, as we shall see, this is the combination which is the distinctive aspect of minority influence. Generally speaking, minorities tend to cause more private attitude change than public attitude change, in other words, minorities tend to have a hidden impact (cf. Maass and Clark, 1984).

At this stage it is worth noting that the terms public/private have often been used interchangeably with manifest/latent. Although I will adopt this practice at the moment, it is important to note that they refer to different dimensions; public/private refers to the extent individuals are prepared for others to be aware of their response while manifest/latent refers to the 'depth' of persuasion. These differences will be expanded upon later (see section 3.3.1).

2.4.1 Evidence for the Hidden Impact of Minorities

One of the first studies to demonstrate that minorities can have influence upon a latent level was the Moscovici et al. (1969) experiment considered in section 2.2.111. After the main part of the experiment, the subjects were asked to take part in a second, ostensibly unrelated, experiment (conducted by a different experimenter), concerning the effects of training upon vision. The subjects were shown 16 disks from the blue-green zone of the Farnsworth Perception Test and asked, for each disk, to name the colour they saw. Three disks from each were unambiguous (that is, they were clearly blue or green) while the other ten appeared ambiguous. The experimenters found that subjects who had been exposed to a consistent minority in the earlier experiment, shifted their perceptual threshold, that is, they called disks green that are usually perceived as closer to blue. But interestingly, subjects who had not yielded to the minority were now more likely than those who did so yield to call the disks green. This shows that the minority's influence went beyond the public level and changed their perceptual code (that is, a latent change).

Another group of experiments performed by Mugny demonstrates the ability of minorities to produce latent influences. Mugny (1982, experiment 3) required subjects to complete a questionnaire concerning pollution before and after reading a communication (the text) which was attributed to a minority source. Some of the items in the questionnaire were referred to in the text and any change on these items reflected 'direct influence'. However, some of the items in the questionnaire were not in the text but could be inferred from the position it portrayed; any change on these items would be 'indirect

change'. Since indirect items are not related to the minority message any change would indicate a latent influence. Mugny found that on direct items, flexible minorities had more influence than rigid minorities which is consistent with his earlier research which was considered in section 2.2.131. However, the same was not true on indirect items, as on these items rigid minorities had the most influence. Furthermore the rigid minorities had more influence on indirect items than either flexible or rigid minorities had on direct items. The latter finding suggests that minorities can influence people's attitudes on issues (or items) not explicitly linked to the minority's message but implicit in its position.

Comparisons between direct and indirect items are problematic because different questionnaire items have been used and therefore any differences might not be due to differences in direct or indirect influence but due to differences in the wording of the items. With this limitation in mind, comparisons have nevertheless been worthwhile because the predicted pattern has emerged from several studies across a number of different topics. Mugny explains his findings by suggesting that a rigid minority blocks negotiation (and hence it has little direct influence) but influence is diverted onto indirect items where the link to the deviant minority is obscured.

2.4.2 Explanations for the Hidden Impact of Minorities

A number of different explanations have been advocated for the finding that minority influence tends to be greater in private than in public. One such explanation is based on Festinger's (1957) Theory of Cognitive Dissonance. According to this theory attitude change may

follow involuntary counter-attitudinal public behaviour in an attempt to reduce dissonance. In other words, if individuals publicly espouse an attitude or engage in a behaviour they do not initially believe in, private change may occur in an attempt to reduce dissonance caused by an inconsistency between public and private beliefs or behaviours (or, as Festinger would call both these, 'cognitions'). However, minority influence tends to have little impact on the public level and therefore one would not expect a lot of dissonance to occur. Also, minority influence has been found to cause attitude change at the private level when subjects were not first required to make a public response (for example, Maass and Clark, 1983).

A second possible explanation for the hidden impact of minorities could be based on the 'sleeper effect'. This is a phenomenon first observed with studies of communications, namely, that when a communication is associated with a deviant source there is little immediate influence; however, over time, when the individual forgets the deviant source of the communication, internalized attitude change can occur. Such an explanation has not been rigorously tested but there is some evidence that both a minority source and its message tend to be remembered over time and not forgotten and this is therefore unlike the 'sleeper effect' (Moscovici, Mugny and Papastamou, 1981).

A third suggested explanation has been reactance theory. According to this theory individuals may not be moving towards the minority but reacting against, and hence moving away, from the majority. It is therefore difficult to know whether the individuals are being influenced by the minority or moving away from the majority. Maass and Clark (1986) tested this hypothesis by exposing subjects either to

the simultaneous influence attempts of a minority and majority (minority present condition) or to the influence attempts of just a majority (minority absent condition). According to reactance theory the pattern of results should be the same in both conditions as subjects move away from the majority and the presence of the minority should have no effect. The results did not support the expectations of reactance theory but supported the conversion explanation of minority influence which we shall be considering below.

As outlined in this section, the hidden impact of minorities phenomenon cannot be adequately explained by cognitive dissonance theory, sleeper effect or reactance theory. One explanation that does receive support has been proposed by Moscovici (1980) and is called conversion behaviour.

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CHAPTER 3 : MODELS OF SOCIAL INFLUENCE

3.1 Introduction to Chapter 3

In this chapter a number of theories are discussed which have attempted to integrate research into majority influence (chapter 1) with research into minority influence (chapter 2). During this discussion it will be necessary to reconsider issues covered in earlier chapters. This is, to a certain extent, unavoidable but is important because it then allows us to consider the suitability of these theories for explaining the effects of social categorization upon social influence. This task is done in the next chapter while this chapter is devoted to theories of social influence processes.

The models of social influence can be divided according to whether they advocate that minority and majority influence are caused by two separate processes (dual process model) or by the same process (single process model).

3.2 Models of Social Influence

3.2.1 Dual Process Models

The main theory in this area has been proposed by Moscovici (1976) which he calls the 'Genetic' model. Moscovici proposes that the source of both minority and majority influence is rooted in their behavioural styles, that is, the way in which they consistently stick to their position. Moscovici rejects the idea that dependency causes conformity, stating that it is usually a consequence rather than a cause of the phenomenon. To support his arguments he cites evidence which suggests that consensus among the majority (that is, its behavioural style) is the most important factor in determining conformity (see section 1.3.1). Moscovici (1976) gives two reasons why social influence processes are mediated by behavioural style rather than dependency "first of all because behavioural style is specifically related to influence phenomena, whereas dependency is more closely linked with the power relations of social relations. Secondly, dependence upon an individual or a subgroup in the process of innovation may be a consequence of the influence process, rather than its cause" (p.110).

How does behavioural style cause influence to occur ? In answering this, Moscovici has drawn upon attribution theory and in particular Kelley's (1967, 1973) model. Within Kelley's framework an individual can draw conclusions about an event from three sources of information; consensus (similarity/agreement across individuals), consistency (how consistent/stable each individual's response is over time) and distinctiveness (the extent to which individuals differ). When applying this to minority influence, it can be shown that, since the minority is perceived as distinctive (in that it is different from the majority), their deviant behaviour will be attributed to the minority itself rather to an external cause. Furthermore the key element of behavioural style, namely, consistency also causes attributions to the

person; for example, if one meets a person who is bad tempered on several occasions one is more likely to attribute the cause of the bad temper to reasons within the individual (for example, as part of his or her personality) than to external causes (for example, that the person has just had a row with his/her spouse).

Unless the minority is seen as biased, the majority will attribute that the minority is committed and certain of its position. This point can be best understood if one considers the typical reactions which occur when an individual is exposed to the influence attempts of a minority. Imagine that you are in a group of friends and you are talking, let us say, about sex and the age of consent. All of a sudden someone argues that the age of consent should be lowered to below 10 years of age. Imagine the shock and horror such a position provokes (this person would certainly be a minority and would be highly distinctive). Initially, people do not accept that the person really believes what he or she is saying, perhaps he or she is joking. In other words, there is a resistance to attribute what the person has said to his or her own belief system. However, if this individual argues this position over time (that is, displays a consistent behavioural style), the other people in the group will start to believe that the person does mean what he or she says.

3.2.11 Behavioural Styles

Throughout the discussion of research into minority influence much stress has been placed on the importance of consistency as a behavioural style. Although consistency appears to be the most important behavioural style and the one which has received the most

attention Moscovici (1976) has outlined four other behavioural styles; fairness, rigidity, investment and autonomy. The first two of these behavioural styles have already been considered earlier (see section 2.2.1).

Investment refers to the amount of effort an individual puts into trying to change someone's attitudes. Moscovici (1976) states that "If an individual or group take great pains to achieve some particular end two implications will be conveyed to others: (1) that they have great confidence in the opinion they have chosen and (2) that they have great capacity for self-reinforcement" (p.113). It seems intuitively plausible that any individual or group who campaign for a particular position for a long time and who put much effort into it, are seen as being committed to their cause. For example, consider the women CND campaigners at Greenham Common who undergo much discomfort, hardship and abuse in pursuing their cause; even if one does not agree with the CND movement one cannot help admiring the lengths (or effort) these women have gone to.

Autonomy is another behavioural style Moscovici has examined. This concept has two facets; first, it refers to the extent an individual's judgement is seen as a product of his or her own belief system rather than as due to outside causes; secondly, there is an objective facet which requires "..... the ability to take into account all relevant factors and to draw conclusions from them in a rigorous manner without being deflected by subjective interests" (p.114). This factor can easily be demonstrated whenever one sees a famous celebrity trying to sell a product in a commercial; the question which is raised in one's mind is whether the person is making an autonomous judgement or is being influenced by the fee being paid.

3.2.12 From Behavioural Style to Cognitive Processes

The analysis of Moscovici's theory so far has revealed a paradox which needs to be explained, namely, how can a theory of social influence processes which advocates that behavioural style is the sole cause of influence also be a dual process model? The answer to this question lies with how individuals deal with the conflict which is created by the source of influence's behavioural style.

Since the majority is initially believed to be correct (because, for instance, several pairs of eyes are believed to be better than one) the conflict it creates motivates individuals to engage in a comparison process where "They attempt to resolve this problem by concentrating on what they say and what the group says without turning their attention to the stimulus itself" (Moscovici and Personnaz, 1980, p.271). The result of this process is that majority influence on the minority tends to produce public without private change (as in the Asch experiments where subjects publicly conformed to an erroneous majority but retained their true beliefs in private).

On the other hand, a minority is initially believed to be incorrect and the conflict it creates induces individuals to engage in a validation process which involves a reconsideration of the issues under question in an attempt to understand the minority's position. The consequence of a validation process is that "..... as a result of trying to see and understand what the minority saw or understood, the majority begins to see and understand as the minority would" (p.272). However, since individuals avoid publically agreeing with a minority,

because they do not want to appear 'openly deviant', there tends to be private without public acceptance (see section 2.4).

In summary Moscovici's theory suggests that a consistent behavioural style produces conflict which induces individuals to engage in differing cognitive processes depending on the nature of the source of influence. "It would be an overstatement but not a mistake" claims Moscovici (1980) "to say that in the face of a discrepant majority, all attention is focused on others, while in the face of a discrepant minority, all attention is focused on reality; that in the first case, the conflict is primarily a conflict of responses, and in the second case it is a conflict of perceptions" (p.215).

3.2.13 Main Points of the Genetic Model

(1) Social influence processes are conceptualised as being bilateral in nature, that is, both majorities and minorities can be sources and targets of influence.

(2) Social influence processes are determined by attributions of behavioural style. Consistency is the most important behavioural style but four others can play a part; fairness, rigidity, investment and autonomy.

(3) Behavioural styles create conflict which result in different cognitive processes according to the nature of the source of influence. In the case of majority influence individuals engage in a comparison process resulting in public without private change, whilst with minority influence individuals engage in a validation process

which results in private without public change.

3.2.14 Evaluation of the Genetic Model

On the whole, the experimental evidence has supported the main tenets of the Genetic model. There is evidence that behavioural style is more important in causing conformity than dependency (see section 1.3.1), that a minority is more influential when it displays a consistent behavioural style than an inconsistent behavioural style (see section 2.2.111). Also, evidence considered in a later section supports the differential influence hypothesis of the impact of minority and majority influence on public and private levels (see section 3.3.1). Furthermore, as Maass and Clark (1984) have pointed out, the theory has received support "..... across such diverse experimental conditions, populations, dependent measures, discussion topics, and paradigms" (p.433).

However, the theory has received criticism from a number of researchers. In their comprehensive review of the literature Maass and Clark (1984) raise five main criticisms. First; nearly all the studies have used the "..... minimal group paradigm in which groups are constituted for no other reason than a one-shot experiment" (p.434). These artificial groups differ from 'normal' groups in that they have had no previous interaction nor expect any future interaction. Furthermore the over-concentration on laboratory studies has led to a total lack of field studies of minority influence. Second: there has been a lack of precise definitions of key concepts, such as consistency. The disparity between theoretical and operational definitions of concepts may be one reason for the

disagreement between researchers.

Third; research has taken a 'black-box' approach and has neglected intra- and inter-personal processes. Fourth; whenever intra- and inter-personal processes are considered they are usually treated as a post-experimental variable and analysed separately. For example, perceived confidence, believed to be a key component of majority influence, is usually measured after the influencing situation and is not analysed in conjunction with the influence data (for example, by means of a regression or structural equation framework). Fifth; the experimental research has "stimulated little theoretical controversy" (p.435).

The criticisms made by Maass and Clark draw attention to the way in which research into minority influence has been conducted and do not criticize the theoretical foundations of the Genetic model. However, theoretical criticisms have been made by Levine (1980), Kelvin (1979) and Cramer (1975).

Levine's main criticisms are concerned with whether conformity is caused by dependency or behavioural style. It will be remembered that Moscovici cites evidence that breaking consensus is more important in terminating conformity than dependency. Also, if dependency is the main variable one would expect conformity to increase as the size of the majority increases but evidence does not support a linear relationship between conformity and majority size (section 1.2.3).

Levine argues that the fact that a social supporter can reduce conformity is not direct evidence that dependency is irrelevant; it could be that the supporter reduces the reliance of the subject upon the majority for information about reality. He also points out that

the reason why conformity does not increase above a majority size of three may be because the majority has reached its maximum ability to reward and punish the individual for not agreeing with it. The relationship between dependency and behavioural style is the main cause of criticism in the Genetic model. Kelman (1979) suggests that dependency and consensus (that is, behavioural style) are different levels of analysis and that one should consider the interaction between them.

Even more damaging to the Genetic model is Levine's claim that dependency may be a cause of minority influence in that "..... the minority's attributed characteristics cause the majority to become informationally dependent on the minority" (p.389). Moscovici would claim that dependency is a consequence rather than a cause of social influence. In his view the process which causes minorities to be influential cannot be dependency since the minorities lack anything which individuals can, initially, be dependent upon (for example, power, status). However, it is possible that as soon as a minority has caused influence, the minority acquires characteristics which lead to dependency in others.

In conclusion, although the Genetic model gives a good explanation of the empirical research, its theoretical assumptions need to be clarified. Its main contributions are: first, it demonstrates that any study of social influence processes needs to take into consideration the influencing abilities of minorities; second, it has drawn attention away from power relations (that is, dependency) and stressed an attributional analysis which takes into consideration characteristics of the source of influence: third, it argues that the impact of social influence processes have to be examined at the public

and private levels.

3.2.2 Single Process Models

These models propose that majority and minority influence are determined by the same process. There are currently two types of single process models, namely, the Functionalist and Formal models.

3.2.21 Functionalist Model

This model was described earlier (see section 1.2.1) and so will only be summarized here. The model was formulated as a consequence of the research into conformity and proposes that the basis of social influence processes is dependency and that influence flows from the group (majority) to the individual, that is, in a unidirectional way. If there appears a deviant individual in the group, then that individual receives a lot of communication from other group members in an attempt to make the deviant conform to the group's expectations (what Festinger calls 'pressures towards uniformity'). Two things can happen, either the deviant conforms or he or she is rejected by the group.

The Functionalist model has been extensively criticized by Moscovici.

In particular, the model is unable to account for the fact that sometimes a minority (or deviant) can influence the majority. In such circumstances dependency is unlikely to be the causal agent as deviants do not normally possess characteristics which promote dependency (for example, power, status). In fact, as we shall see later,

individuals initially resist being influenced by a minority for fear of being categorised as a deviant.

Hollander (see section 2.2.21) has proposed an explanation of how deviants can have influence which is based upon the notion of dependency. He claims that once individuals have claimed sufficient 'idiosyncrasy credits', they are in a position to successfully deviate from the group.

3.2.211 Main points of Functionalist Model

(1) Social influence processes are unilateral in nature, that is they proceed from the group to the individual.

(2) Dependency is the only cause of social influence processes and its purpose is to ensure social control.

(3) Deviancy is seen as dysfunctional, pressures towards uniformity ensure that deviants either conform to the group or face rejection.

(4) The only circumstances under which a deviant can have influence is by first acquiring "idiosyncrasy credits" through first conforming to the group's expectations.

3.2.212 Evaluation of the Functionalist Model

By advocating a unilateral view of social influence processes, the Functionalist model neglects the two way influence process which

exists between individuals. Also, emphasis on dependency, as a source of influence, portrays humans as lacking autonomy and as being 'group dependent'. Such a view fails to account for those instances when deviates can have influence, for example, Jesus, Hitler, Copernicus, Freud, Gandhi etc. were all individuals who were initially viewed as deviants but subsequently had great influence. Although it could be argued that some of these individuals first conformed to society before they deviated and thus acquired "idiosyncrasy credits" (for example, Freud and Hitler) such an interpretation cannot apply to all such individuals.

The Functionalist model gives a good account of conformity and particularly the relationship between dependency and power. However, it should be noted that Moscovici has argued against the notion of dependency being a causal agent in social influence processes.

In evaluating the Functionalist model it can be stated that it is too restricted and provides only a 'blinkered' view of social influence. Moscovici (1976) elegantly sums up this problem "A part of, or a level of reality seems to escape the reach of these propositions [of the Functionalist model]. More specifically, a large number of essential problems or elements relating to social influence are thrown indiscriminately into one category, or ignored altogether" (p.42). The main aim of Moscovici's work has been to remove these blinkers.

3.2.22 Social Impact Theory

Social Impact Theory (SIT) is a general theory about how individuals interact in a group which has been developed by Latane and his

colleagues (Latane and Nida,1980; Latane,1981). Social impact refers to "..... any of the great variety of changes in psychological states and subjective feelings, motives and emotions, cognitions and beliefs, values and behaviour, that occur in an individual, human or animal, as a result of real, implied or imagined presence or actions of other individuals" (Latane,1981, p.343). The basic assumption behind SIT is that social impacts are seen as the "..... result of social forces (like the physical forces of light, sound, gravity and magnetism) operating in a social force field or social structure" (p.343-344).

3.2.221 Three principles of SIT

SIT makes an analogy between social impacts acting within a force field and physical force fields, therefore it is not surprsing to find that its main principles draw heavily upon psychophysics. There are three main principles. The first principle states that "..... the amount of impact experienced by the target should be a multiplicative function of the strength, S, the immediacy, I, and the number, N, of sources present" (p.344). This can be represented as Total Social Forces = $f(SIN)$ where strength refers to "salience, importance, or intensity of a given source", immediacy refers to "closeness in space or time and absence of intervening barriers or filters" and number to "how many people there are". In short the impct upon a target of influence is a combination of these three factors.

The second principle draws directly upon the work of psychophysics and states that the first source of influence will have the most influence while additional sources will have a marginally decreasing effect, that is, each addition in number will increase the overall impact by a factor less that the addition of the predecessor. This law is

represented by $I = S N t$ where I is the total impact, N is the number of sources, S is a scaling constant and t is a power exponential which has a value of less than one to denote that it is a marginally decreasing function. In other words, one would predict that the first source of influence has the most impact while each addition to the source increases the amount of influence to a lesser extent than the addition of its predecessor.

The third principle states that there exists a "..... type of force field or social structure in which other people stand with the individual as the target of forces coming from outside the group (p.349). In this situation increasing S, I or N leads to a "division or diminution of impact". This idea is not dissimilar to the diffusion of responsibility hypothesis which proposes that the larger the group the greater is the sharing of the responsibility and thus the lower is the responsibility felt by any particular individual. This principle is mathematically similar to the second principle except the exponent has a negative value (that is, $I = S N^{-t}$).

As a general theory, SIT is very similar in form to theories in the natural sciences, with laws of behaviour which lead to direct predictions. Such is the scope of SIT that Latane (1981) has applied it to ten areas of research from stage fright to enquiring for Christ! Far from being a theoretical puzzle, Latane believes that the general theory has applications to real life problems "An understanding of how social impacts work, then, has strong implications for a social engineering approach to environmental design" (Latane and Nida, 1980, p.5).

3.2.222 SIT Applied to Majority and Minority Influence

Latane and Wolf (1981) have attempted to apply the principles of SIT to majority and minority influence. Their theory implies that majority and minority influence are determined by the same factors, that is, "..... a multiplicative function of the strength, immediacy, and number of its members" (p.439).

In the case of majority influence it is clear how influence occurs as majorities generally possess such factors as S, I and N.

3.2.223 Research into SIT

SIT proposes that majority influence should increase as a multiplicative function of S, I and N. This function should be linear in nature and should have as a gradient the root of N (which should be smaller than one). In other words, the more the majority possesses S, I and especially N, the greater will be their ability to influence others. The most important variable determining the amount of influence is N, such that each addition to N increases influence by a smaller amount than the addition of its predecessor (second principle of SIT see section 3.2.221).

SIT's explanation of minority influence is not as simple as it is for majority influence. The reason for this is that the three variables employed by SIT are often not possessed by minorities. Almost by definition, minorities are lacking in the most important factor of N. However, Wolf and Latane claim that "All else being equal, conformity to the majority position should increase as a power function of majority size and decrease as a power function of minority size". In other words, if the majority is held constant, the influence of a

minority will increase as a power function of N. Like majority influence, this power function is less than one but is negative, that is, each addition to the minority has less influence than the addition of the predecessor.

In summary the model proposes that majority and minority influence are determined by the same process and are a function of the multiplicative impact of S, I and N. The most important factor is N and influence is determined by a power function of N which is less than one. In the case of majority influence the power function is positive while in the case of minority influence it is negative.

According to the theory, majorities always have more influence than minorities since, by definition they have greater possession of S, I and N. However, minority influence is possible although it may have to rely upon the impact of S and I variables rather than N.

3.2.223 Research into SIT

Latane and Wolf have often relied upon reanalyses of previous research to provide support for their theory. In particular they have focussed on the relationship between majority size and conformity. According to SIT, conformity should increase as a function of majority size (N) such that the first few individuals should have the most impact with subsequent additions having a marginally decreasing effect. This is contrary to much of the Asch research which found that majorities of two or three had very little effect. Latane and Wolf (1981) have cited a number of experiments (including some unpublished work of their own) which shows that an equation with a power function of N less than one is a better predictor of influence than a straight line.

It should be recalled that this issue has been considered previously with the conclusion that there are no consistent results concerning the relationship between majority size and conformity (see section 1.2.3).

Wolf and Latane (1983) conducted an experiment where subjects were exposed to the restaurant preferences of a number of people and were required to indicate how much they would like to eat at each restaurant. A number of variables were manipulated including majority-minority size, expertise, positive-negative information about a restaurant. Unexpectedly, negative information about restaurant preference had no effect. However, when the information was positive, the experimenters claim that the data support SIT. They found that majority influence increased as a function of N and S of the majority. Furthermore, majority influence increased as a power function of N but this was a negative function and not positive as expected by the theory. The results for minority influence were not in support of SIT. Although minority influence increased with size, the function was not a negative one as predicted by the theory.

3.2.224 Main Points of SIT

(1) Social influence processes are proposed as being bilateral in nature, that is, majorities and minorities can be both source and targets of influence.

(2) Social influence processes are determined by a multiplicative function of S, I and N of the source of influence. Majority and minority influences are conceptualized as being the same process.

(3) The amount of impact experienced by a target will increase as a power function of the number of individuals within the source of influence. This function is less than one, denoting that the addition of every extra person to the source of influence will have a marginally increasing effect. This function will be positive in the case of majority influence and negative in the case of minority influence.

3.2.225 Evaluation of SIT

One of the advantages of SIT is that through its analogy with a 'social forcefield', it highlights the fact that social influence is a two-way process between majorities and minorities. Previous models of social influence have not emphasised this fact, preferring to consider majority and minority influence as separate phenomena occurring within groups. One of the consequences of social impact theory is that many researchers recognise the need to conduct experiments where the subject is simultaneously exposed to the influence attempts of a majority and a minority.

One of the problems with SIT is its reliance upon numbers to explain social influence. It is very easy to be seduced into thinking that numbers cause influence and the fact that majorities have more influence than minorities is because they contain more people. As noted earlier, research does not support the hypothesis that there is a relationship between majority size and conformity (see section 1.2.3). Even more damaging to this theory is the evidence that majority consensus is more likely to lead to conformity than is the

size of the majority size (see section 1.3.1).

Another reason why it is unwise to think of social influence in terms of numbers is the fact that it encourages the idea that the only difference between majorities and minorities is in terms of their numbers. There are two problems with this line of reasoning. First, definitions of majority and minority based on numbers are context specific, that is, they are determined by the number of people present in the social situation without recourse to the wider social system. Yet we are aware of what is considered to be majority and minority positions in a society independently of the attitudes held by those immediately around us. Second, explanations of social influence based on numbers are unable to explain many factors which can affect majority and minority influence, for example, social support (see section 1.3.2), culture (see section 1.4), non-verbal behaviour (see section 2.2.121), flexible/rigid style (see section 2.2.131). In this respect, the explanatory power of SIT could be increased if attention was focused on the S and I aspects of the equation (however, Mullen, 1986, has shown that, in a meta-analysis of research, the effect of S and I is weak and often attributable to differences in the measurement of the dependent variables).

Perhaps the biggest weakness of SIT is that it only considers social influence which occurs at the public level and does not consider attitude change on a private level. As we have already seen, social influence processes tend to have different effects on public and private levels of influence (see section 2.4). This problem may be due to the fact that SIT attempts to identify the variables which cause social influence but does not try to explore the process by which this is achieved.

Tanford and Penrod (1984) have conducted a meta-analysis of a large number of studies in social influence and have developed SIT (they term it Social Influence Model, SIM). SIM is very similar to SIT and therefore has not been considered separately. However there are three main differences. First, SIT proposes that influence will be a linear relationship with the multiplicity of S, I and N with the gradient determined by a power function of the N variable while SIM proposes an S-shaped function where increasing N initially increases influence but then reaches a peak followed by a decrease. Second, SIT does not predict a maximum degree of influence, whereas SIM does. Third, SIM includes a number of additional parameters such as individual differences in susceptibility to influence. Although these additions to SIM have improved its explanatory power compared to SIT, the aforementioned problems are still relevant.

In conclusion, SIT (and SIM) have improved our understanding of the process of social influence by highlighting the fact that both majorities and minorities can be source and targets of influence. However, the reliance upon numbers determining influence causes a number of problems especially in accounting for minority influence. More importantly, since these theories do not propose a process of social influence they are unable to explain why majorities and minorities often have different effects on public and private levels.

3.3 Dual Versus Single Process Models of Social Influence

So far in this chapter two theoretical perspectives have been examined, that is, those theories which consider minority and majority influence to be determined by the same process (single process models)

and those theories which consider them to be determined by different processes (dual process models). In this section research will be discussed which has attempted to test competing hypotheses deriving from these perspectives. In order to simplify presentation, research has been grouped into two broad categories: (1) those experiments which have examined the effects of minority and majority influence upon different levels of influence (the differential influence hypothesis) and (2) those experiments which have examined the cognitive processes underlying minority and majority influence.

3.3.1 The Effects of Minority and Majority Influence Upon Different Levels of Influence

Before discussing this research it is worthwhile to restate the predictions of the single and dual process models. The dual process model, which is characterised by Moscovici's theory, states that whereas majorities tend to have greater public than private influence (compliance behaviour), minorities tend to have greater private than public influence (conversion behaviour). In other words, the dual process model would predict an interaction between the variable minority/majority and level of influence. On the other hand, the single process model would not predict such an interaction but simply that majorities would have more influence than minorities.

An important point to consider when examining these experiments concerns the different ways in which influence has been measured. Three types of measures can be identified: manifest/latent, direct/indirect and public/private. Since these are different types of measures the experiments will be considered under these three

headings. These various measures are relevant to my own research described in chapters 5 to 8.

3.3.11 Manifest and Latent Influence

Manifest and latent measures of influence represent the most popular types of measurements employed in research in this area. A number of fields of research using these measures can be identified and these are discussed below.

3.3.111 The Green/Blue Colour Perception Experiments

In one of the first studies into minority influence, Moscovici et al. (1969) found that a minority who consistently responded 'green' to objectively blue slides, could cause naive subjects to respond publicly 'green' (see section 2.2.111). A second part of the experiment showed that those subjects who had been exposed to a minority were more likely, as compared to those who had not been exposed to a minority, to see disks as green which are normally seen as blue (see section 2.4). Since the minority was absent from the second part of the experiment, the result shows that the minority's influence had caused a real change in subjects' perception. In this paradigm giving 'green' responses in the group situation represents manifest influence while calling disks 'green' after the group situation represents latent influence because the response 'green' was linked to the (now absent) minority's response.

Moscovici and Lage (1976) employed the same paradigm as Moscovici et al. (1969) except that they also had a majority influence condition,

that is, four confederates giving the 'green' response with two naive subjects. The results supported the dual process model. Majorities displayed greater manifest influence than minorities while the reverse was true for latent influence.

It is important to note that the experimenters analysed the results of the minority and majority conditions separately and therefore it is not possible to determine whether there was an interaction between the source of influence and the level of influence variables. Also, the manifest and latent measures of influence are very different with the result that any comparisons between them is not legitimate since any difference may be due to the type of measurement rather than the manipulations.

Finally, the main reason why this research design has not been extensively used concerns the relationship between manifest and latent measures of influence. In order to obtain valid latent measures, subjects must not believe that there is a link between manifest and latent responses. If a link is assumed, changes at the latent level may simply represent generalization from the manifest level.

Moscovici and Personnaz (1980) have noted such a problem "Subjects who had heard the strange and novel response "green" on several occasions during the first experiment may have simply employed it as their own in the second experiment, without the perception of the color being altered in the slightest" (p.272-3).

3.3.112 Chromatic Afterimage Experiments

As a result of the problem of generalization in the blue/green

experiments, Moscovici and Personnaz (1980) employed an ingenious manipulation to ensure that subjects did not assume that there was a link between the manifest and latent measures of influence. The research design they employed was similar to that used by Moscovici et al. (1969) in that subjects viewed objectively blue slides, except that they were exposed to only one other person who was a confederate and who consistently responded 'green'. Subjects were informed that a 'green' response was either given by 18.2% of the population (minority influence condition) or by 81.8% of the population (majority influence condition). The number of 'green' responses verbally given by the subject represented manifest influence.

The latent measure of influence was subjects' chromatic afterimage obtained when looking at a white screen immediately after viewing the slide. Normally the colour perceived immediately after viewing a coloured stimulus is the complementary colour of that stimulus. If there has not been a change in subjects' perception then they should report seeing the complementary colour of blue (that is, yellow-orange). However, if the source of influence has been successful in altering subjects' perception they should report seeing the afterimage as nearer to the complementary of 'green' (that is red purple). Subjects were required to report the colour of the afterimage on a 9-point scale from yellow to purple.

Since the colours subjects report for the latent measure of influence are different from those used for the manifest measure of influence, subjects are unlikely to assume a link between them, thus overcoming the problem of generalization.

The dual process model would predict that majority influence would

create more conformity on manifest responses than minority influence. This was not supported as there was no difference in the number of 'green' responses given verbally by the subjects. This does not support the earlier findings of Moscovici and Lage (1976). However, consistent with the dual process model, minorities caused subjects to shift their judgement of the afterimage closer to the complementary of green than did majorities. At first sight it seems an extraordinary finding and counter intuitive that a minority can actually change individuals perceptual code even when the confederate gives an obviously wrong response. Moscovici and Personnaz repeated the experiment and found a similar result, a consistent minority was able to change the perceptual code of subjects such that they were more likely to see the afterimage of objectively blue slides nearer to the complementary colour of green. Such a phenomenon was not observed with majority influence.

Although the results of Moscovici and Personnaz's experiment show that a minority can cause more latent change than a majority, it does not show that the minority's latent influence was greater than the manifest influence because the measures of influence are quite different. This problem was associated with the green/blue experiments discussed in the last section, that is, comparisons between manifest and latent influence are not legitimate because they employ different techniques of measurement - any difference may merely reflect differences in the measures themselves rather than the influence process. This point is taken up below by Personnaz (1981). Other researchers have also challenged these findings.

Doms and Van Avermaet (1980) conducted a replication of the Moscovici and Personnaz experiment with the same experimental materials and

found that both a minority and a majority produced conversion, that is, caused subjects to shift their perceptual afterimage to the complementary of green. Doms and Van Avermaet hypothesized that their failure to find a difference between the minority and majority influence conditions may have been due to the weakness of the minority/majority manipulation. In order to check whether this manipulation had been successful, they conducted a second experiment which was the same as the first experiment except that subjects were asked what percentage of people they thought would agree with their own response and with their partner (the source of influence).

In the minority condition the subjects thought that 70.5% would agree with their position and 24.5% with their partner (the minority) while in the majority condition they thought that 45% would agree with their position and 54% with their partner (the majority). It is quite clear that the subjects believed the manipulation and perceived their partner to hold a minority or majority position according to the experimental instruction. The results of the second experiment were very similar to the first experiment with both a minority and a majority producing conversion. Therefore the results of the first experiment cannot be attributed to weaknesses in the source of influence manipulation.

Doms and Van Avermaet provide an explanation of their data which is based upon the work of Upmeyer (1971) who found that when exposed to discrepant information by a majority, subjects performed better in a discrimination task than those not exposed to the discrepant information. It is proposed that discrepant information (from a minority or a majority) motivates subjects to pay more attention to the task thus leading to more accurate responses. However, is

perceiving the afterimage nearer to green of a blue slide a more accurate response ? According to Doms and Van Avermaet it may be possible because, before being exposed to influence, subjects judge the afterimage as red-rose which indicates that the slide is composed of green as well as blue aspects.

Sorrentino, King and Leo (1980) claim that these experiments show 'distortion of judgements' instead of perceptual distortion (as Moscovici and Personnaz would claim). "Unlike perceptual distortion, judgement distortion is not an actual change in perception. Instead, persons are simply confused by the reports of others, and conform to the group because they are no longer certain of their own perception" (p.294). The problem stems, according to Sorrentino et al., from the colour scale employed by Moscovici and Personnaz. Since the scale runs from yellow (chromatic afterimage of blue) to purple (chromatic afterimage of green) any deviations away from yellow would indicate a change in perception towards the complementary colour of green, in other words conversion.

To overcome this problem Sorrentino et al. suggest using a 'random' minority where subjects are presented an array of colours from which they choose which is closest to the afterimage. Their experiment consisted of three conditions, replication of Mosovici and Personnaz's minority influence condition, 'random' minority and control. Since a majority influence conditon was not used, the experiment is thus not a test of the dual process model. However, the experimenters found that none of the conditions produced conversion but that subjects' suspiciousness of the experiment (measured in a post experimental questionnaire) played a role in the results. More specifically, all the subjects who showed conversion were suspicious of the experiment.

On the basis of this finding the authors provide an explanation of the results which suggests that suspicious subjects pay more attention which, in turn, produces the perceptual effect of increased intensity.

Since the colour blue contains hues of green it is possible that an increase in intensity may make the green hues more salient thus leading to a complementary colour closer to green than blue. This explanation is similar to that of Doms and Van Avermaet.

Thus we observe that three sets of authors have found different results and suggest conflicting explanations. Although the Moscovici and Personnaz's research design has many flaws, one cannot disregard the ingenious method it employs in measuring latent influence. We will now turn our attention to one more experiment in this area which tries to overcome many of the problems raised with the chromatic afterimage research design.

Personnaz (1981) tried to overcome the problem of using different methods for measuring manifest and latent responses by using a spectrometer which is a device for measuring wavelengths of light. There were three measures of influence, manifest (number of 'green' responses given verbally), manifest spectrometer measure of slide and latent spectrometer measure of afterimage.

He found that although very few subjects gave 'green' responses verbally, it was given more frequently in the majority influence condition than in the minority influence condition thus providing some support for the dual process model. Interestingly, the spectrometer measurements of the slide showed that minorities caused subjects to modify their perceptions whereas majorities did not. Furthermore, the spectrometer measurements of the afterimage scores also showed that

minorities caused subjects to modify their perceptions toward the complimentary of green whereas majorities did not.

3.3.12 Direct and Indirect Influence

In our discussion of the models of social influence, it is important here to return to the issue of direct and indirect influence which was discussed in relation to Mugny's work in section 2.2.131. As pointed out there, direct influence refers to attitude change which occurs on a dimension which is explicitly linked to the source of influence and therefore is comparable to manifest influence. On the other hand, indirect influence represents attitude change which occurs on a dimension which is not explicitly related to the source of influence but is implicitly implied by its communication. In other words, indirect influence represents change towards the source of influence on dimensions not explicitly expressed in the communication but which follow logically from its position.

Whilst measures of latent influence are designed to be similar to those of manifest influence but with the aim that the subject is unaware of a link, direct and indirect influence are assessed by entirely different measures. However, since indirect influence tends to be measured on dimensions which are not directly derived from the source of influence, what these measures reveal may be analogous to latent influence. In this section we consider three experiments which have examined the effects of minority and majority influence on direct and indirect measures of influence.

Moscovici, Mugny and Papastamou (1981) conducted an experiment using

the direct and indirect items first employed by Mugny (1975) discussed in section 2.2.131. In this experiment subjects complete a questionnaire concerning pollution before and after reading a text which is portrayed as being either a minority or majority position. Since some of the items in the questionnaire deal with issues explicitly expressed in the text, any changes on these items reflects direct influence. However, other items in the questionnaire were not mentioned in the text but are related to the position it advocated. Any changes on these items reflect indirect influence since change is in the direction advocated by the text although on different but related issues. Indirect influence therefore may be considered a form of influence generalization.*

The second experiment to be considered in this section was conducted by Aebischer, Hewstone and Henderson (1984). This study dealt with students' musical preferences. Subjects indicated their preference between pairs of recordings of hard rock/new wave and hard rock/contemporary music (note, that the subjects from this experiment were French who prefer hard rock music). After this they were informed of the results of a recent musical poll showing that either a minority or a majority showed a preference for new wave music. This was followed by once again indicating preferences between the pairs of music. In this design, changes in preferences to new wave music represented direct influence as this was indicated as the source of influence's preference. However, changes in preference to contemporary music would reflect indirect change because, although it is not explicitly linked to the preference of the source of influence it is related to it. The authors state "Contemporary music has a different rhythm from, but can be related to the sounds and harmonics of, new wave music; it differs completely from hard-rock" (p.25).

* The results support the dual process model. While majorities caused more change on direct (manifest) than did minorities, the opposite was the case for indirect items (latent).

The results are interesting. While there was no direct influence (that is, change from hard rock to new wave), a minority source caused more indirect influence than a majority source (that is, change from hard rock to contemporary). The latter finding is consistent with the dual process model while the former is not though one would have expected majorities to have more direct influence than minorities.

The third experiment to be considered here was conducted by Wolf (1985) employing a jury decision paradigm and discussed in section 2.3.2. In this experiment subjects were required to reach a decision concerning the level of compensation to be awarded to a plaintiff. Subjects were given false feedback which suggested that there were either a majority or a minority in the group which argued a different position from their own. Direct influence was represented by their final estimate of the level of compensation while indirect influence was measured by subjects rating the utility value of a low and a high compensation (thus subjects may not directly agree with the source of influence but may positively value its level of compensation).

Wolf found that majorities caused more direct influence than minorities which is expected by the dual process model. However, there was no difference on the latent measures of influence. Although the latter finding does not support the dual process model it cannot be taken as supporting the single process model, as one would still expect a majority superior effect on latent measures.

These three experiments have used different methodologies and have found differing results. Evidence for the dual process model has been found although it is incomplete, no experiment has found the complete

expected pattern of results, that is majorities having greater influence than minorities on direct items while minorities having greater influence than majorities on indirect items.

3.3.13 Public and Private Influence

In the manifest/latent and direct/indirect methods for testing the dual process model much emphasis has been placed upon the fact that the latent level of influence is not linked to the manifest level, thus avoiding the problem of subjects making generalizations of responses from one measure to another. Although such a distinction is important it does have at least one major problem. First, since two different measures are employed, comparisons between them are illegitimate due to the fact that any variation may merely reflect differences in the measures themselves rather than due to the experimental manipulations. This is particularly important because the dual process model makes predictions between the level of influence variable, that is, majorities having more manifest than latent influence (compliance behaviour) whilst minorities having more latent than manifest influence (conversion behaviour). Bearing this in mind it is true that neither the manifest/latent nor the direct/indirect measures are capable of testing the basic tenets of the dual process model.

One way to avoid this problem is to have the same measure for both responses. This could be done by either asking subjects to give their response in public, that is, so that other individuals will know their attitudes, or in private, that is, so that no-one (not even the experimenter) is aware of their position.

Second, the problem of response generalization has been compounded by the fact that the experiments have taken the different measures as a within-subjects factor, that is subjects give both a manifest and a latent measure. In such a situation one cannot be sure that subjects do not form a link between the measures (especially when the latent measure seems to have no relevance to the experiment). This problem could be reduced if measures of influence are taken as a between-subjects factor, that is, subjects only respond at one level. A number of experiments have attempted to test the dual process model using public and private responses as a between-subjects factor.

Maass and Clark (1983b) have conducted an experiment into minority and majority influence which uses public and private responses. The experiment concerned attitudes towards gay rights. Subjects were simultaneously exposed to arguments of a minority and majority which differed from their own position. In order to control for direction of argument, in some conditions the minority was pro-gay rights and the majority anti-gay rights while in other conditions this was reversed. The arguments were presented as a summary of a five person discussion where there was a different position held by one person (minority) and the other four people (majority). The minority and majority both gave eight arguments in favour of their position. After reading the summary of the group discussion the subjects were required to complete a four item attitude scale concerning gay rights.

The results showed that subjects tended to move towards the majority position when they made their responses in public and towards the minority position when private responses were required. This pattern of results was replicated on a second experiment (Maass and Clark,

1986). Although these results do not test Moscovici's theory directly (because it is impossible to determine the exact relationship between source of influence and level of influence), they do indicate that minority and majority influence are different processes. Therefore the results cannot be explained from a single process perspective.

In a similar conceptualization of public and private responses Mugny (1974-1975, 1976) has conducted a number of experiments with the Muller-Lyer illusion. This illusion concerns the judgement of the length of two lines, one of which has arrows pointing inwards while the other has arrows pointing outwards. The line with the arrow pointing outwards appears to be the longest when in fact they are the same length. Mugny found that when exposed to majority influence subjects changed their responses in public but not in private, whereas the opposite occurred with minority influence. This pattern is consistent with the dual process model.

3.3.2 Cognitive Processes underlying Minority and Majority Influence

The last section dealt exclusively with the effects of minority and majority influence on manifest and latent responses while in this section we are concerned with the underlying processes. It is possible to argue that the nature of the source of influence has an effect upon the level of influence without recourse to differential mediating processes. Such an argument is consistent with the single process model. However, dual process models of social influence, and in particular that espoused by Moscovici, explicitly claim that majority and minority influence are mediated by different cognitive

processes. These processes were discussed early in this chapter. In short, majorities cause individuals to engage in a comparison process where attention is focused on the majority, whereas minorities cause individuals to engage in a validation process where attention is focused on the topic. In other words, one would expect minorities to cause individuals to analyse the topic under consideration to a greater extent than would majorities.

Some evidence in favour of this was reported by Moscovici et al. (1981), discussed in an earlier section, who found that subjects remembered more information from a persuasive communication when it represented a minority viewpoint than when it represented a majority viewpoint. This shows that minorities cause individuals to attend to and hence remember more about the position they advocate than do majorities.

3.3.21 Differential Focus of Attention

As noted above Moscovici's theory suggests that majorities cause attention to be focussed upon the majority members (interpersonal) whilst minorities cause attention to be focused on the area under consideration (stimuli). Some research by Guillon and Personnaz (1983) has tested this idea. Subjects were required to give their thoughts concerning a videotape recording of a discussion in which they either faced a majority or a minority. A content analysis of their comments showed that subjects who had faced a majority experienced high interpersonal conflict during the discussion whilst those exposed to a minority reported an increased cognitive conflict. Further evidence comes from Tesser, Campbell and Mickler (1983) which

showed that subjects attended more to the stimuli when exposed one other person than when exposed to three people. This should be treated with caution because it cannot be assumed that in this experiment one or three people represented a minority or a majority.

3.3.22 Divergent and Convergent Thinking and Minority and Majority Influence

Nemeth (1985, 1986) has presented a number of interesting experiments concerning the cognitive processes caused by minority and majority influence. Like Moscovici, she believes that minorities cause greater cognitive 'effort' than do majorities; however, there is a difference between them in how they view the nature of the thought processes. Nemeth claims that when exposed to minority views individuals are "..... stimulated to attend to more aspects of the situation, they think in more divergent ways, and they are more likely to detect novel solutions or come to new decisions". This process is analogous to creativity. On the other hand, majorities cause individuals to "..... focus on the aspects of the stimuli pertinent to the position of the majority, they think in convergent ways; and they tend toward adoption of the proposed solution to the neglect of novel solutions or decisions". There are two main differences between Nemeth's and Moscovici's analysis. First, there is a difference in the focus of attention by individuals; according to Moscovici, minorities cause attention to be directed at the stimuli under consideration while Nemeth claims that it is the majority which does this. Second, there is a difference in emphasis of the output of minority and majority influence; Moscovici emphasises the difference in cognitive activity while Nemeth emphasises differences in modes of thinking.

Three recent experiments have tested Nemeth's hypotheses. In the first experiment, by Nemeth and Wachtler (1983), groups of six subjects were shown a series of slides which contained a standard figure and six comparison figures. The subjects were required to indicate which comparison figures had the standard figure imbedded in it. One comparison figure was very easy while the other five were difficult. Either two out of the six subjects (minority) or four out of the six subjects (majority) were confederates of the experimenter and were required to indicate that the standard figure was embedded in the easy figure and one other figure (which was either correct or incorrect). They found that subjects followed the responses given by the majority more than they did for the minority. Also, subjects who were exposed to a minority were more likely to find novel correct solutions than when exposed to a majority. This shows that subjects followed the majority response and did not analyse the other figures whereas the minority caused subjects to look for new and novel solutions.

More evidence for this interpretation has come from Nemeth and Kwan (1985a). In their experiment groups of four subjects viewed slides which contained a five letter string with the three middle letters in capitals, for example tDOGe. They were required to name the first three letters they saw. After the first five trials they were given bogus feedback about the responses of the other subjects which indicated that either 3 out of 4 saw the word formed by backward sequencing (god) and one person saw the word formed by forward sequencing (dog) (majority condition) while others received the reverse (minority condition). They were then required to complete the task for ten sequences. They found that those in the majority condition followed the majority strategy whilst those in the minority

condition adopted all possible strategies and found more solutions. Thus this experiment shows that the process of innovation, resulting from minority influence, can lead individuals to raise new and novel solutions to an issue. The final experiment to be considered here was conducted by Nemeth and Kwan (1985b) and concerned the green/blue colour slide experimental design. Subjects were placed in a cubicle with a confederate who consistently called blue slides green. Prior to this, the subject was told that previous research had shown that about 80% of people judge the colour as blue while 20% judge it as green (minority condition) or the reverse (majority condition). After the experiments, subjects were asked what words they associate with 'blue' and 'green'. They found that those subjects exposed to a minority who had called the slides green gave more original associations (that is, less statistically frequent) to 'blue' and 'green' than did those who had been exposed to a majority calling the slides green.

The results of these experiments clearly show that the cognitive processes which result from majorities and minorities are very different, with the former leading to a narrowing of the cognitive field to coincide with the majority (convergent thinking) while the latter leading to a widening of the cognitive field to include new interpretations (divergent thinking). However, no matter how persuasive these experiments are it is important to show that these differential cognitive processes actually mediate minority and majority influence. It is to this question which we turn our attention in the next section.

3.3.23 Cognitive Activity as a Mediating Process

A detailed investigation of the cognitive processes underlying minority and majority influence has been conducted by Maass and Clark (1983a). Their experiment was outlined in the previous section. In the experiment subjects received a minority and a majority view-point concerning gay-rights (where the position was pro- or anti-gay rights was reversed). After reading the text they were asked to write down their own arguments to the position presented by the minority and majority. Two sets of six 'ideas spaces' were provided for this task. Subjects were also asked to rate whether the argument was pro-, neutral or anti-gay rights.

Their results are very illuminating. First, and contrary to their hypothesis, there was no difference in the number of arguments generated from a majority or a minority. Whilst there was an overall tendency for subjects to generate arguments in favour of the source of influence rather than counter-arguments, minorities were more likely to trigger the generation of pro-arguments while majorities were more likely to generate counter-arguments. This data shows that, while the nature of influence does not make a difference in the number of ideas generated (or in other words, cognitive activity), they do cause different types of ideas to be triggered. This suggests that there may not be a quantitative difference in the amount of cognitive activity between a majority and a minority (as originally claimed by Moscovici) but a qualitative difference in the process. This finding is consistent with Nemeth's model.

Finally, Maass and Clark turned their attention to the mediating effect of cognitive activity in relation to the level of influence. This is an important test as the dual process model predicts that

cognitive activity should mediate minority influence but not majority influence. This hypothesis was tested by using a number of multiple regressions separately for the public and private response conditions. In these regressions the influence scores were the dependent variable while the mediating variable (cognitive activity) was entered before and after the source of influence variable (minority/majority). As predicted, in the private response condition, there was a large drop in the significance of the source of influence variable when cognitive activity was entered first, as compared to when it was added second, showing that cognitive activity mediated influence. No such change in the significance of the source of influence variable was found when the cognitive activity variable was entered before or after it. Furthermore, cognitive activity was found to account for 41.5% of the variance in influence in private responses but only 17% of the variance in the public condition. This clearly shows that cognitive activity mediated private responses but not public responses which is consistent with Moscovici's model.

Another experiment which has looked at the mediating effect of cognitive activity has been conducted by Maass, West and Clark (1985). Subjects were required to discuss the topic of Affirmative Action (that is, legislation to make organisations in West Germany employ a certain percentage of people from minority groups) in groups of six people. In some conditions two people in the group argued a minority position. Analysis of recordings of the discussion showed that the length of time speaking in favour of Affirmative Action correlated with private attitude change but not with public attitude change.

3.3.3 Evaluation of Research Testing Dual Versus Single

Process Models

To summarize the research focusing on the differential influence of majorities and minorities, evidence is generally in favour of the dual process model. Although no experiment has shown the perfect relationship, the research clearly supports conversion behaviour (that is, minorities have more influence in private than they do in public) while the evidence is not so clear-cut regarding compliance behaviour (that is, majorities have more public than private influence). In the case of the chromatic afterimage experiments, virtually no superior public influence was observed with majorities compared to minorities. This could be due to the fact that the communication consisted of an obviously incorrect response (virtually no one in the control condition gave the same response). It is unlikely to find public conformity to an incorrect response even if it is alleged to be a majority position. This also raises the issue of the legitimacy of the source of influence when it was defined as a majority. In these experiments a numerical majority gave an anti-normative position which is normally considered to be a minority view. It is often argued that definitions of minority and majority should rely more upon their relative normative positions rather than numbers alone (see introduction to thesis). However, such arguments cannot detract from the fact that majorities did not lead to a private change whereas minorities did.

A further point worthy of consideration is that in some of the experiments the design hindered adequate testing of the dual process model. According to the model, hypotheses concerning minority and majority influence are couched in terms of differences across the level of influence. However, in the case of the manifest/latent and

direct:/indirect experiments different measures were employed to measure each level of influence. Therefore comparisons between the levels are not legitimate (as they may reflect differences in the measures rather than due to the source of influence) thus making testing of the hypotheses problematic. The only legitimate comparisons are those within the same level of influence. The above criticism is not true of the public/private experiments as these employed the same measure for each level of influence.

Since the differential influence effects can be affected by many contextual factors, a number of studies have focussed on the cognitive processes underlying majority and minority influence. In a sense this is taking a step back from the level of influence to examine the antecedents to these effects. If different processes do underly majority and minority influence then this debunks the view that they are governed by the same process but have different manifestations on contextual factors such as, level of influence. Therefore, the experiments that examine the processes underlying majority and minority influence provide a more stringent test of the dual process model than do those that focus on the differential pattern of influence.

In all the experiments which have examined the cognitive processes underlying majority and minority influence have shown quite clearly that they are different (one wonders whether experiments showing no difference would be reported). This is strong support for the dual process model. However, the nature of the difference is a matter of controversy. While Moscovici resorts to a difference in cognitive 'effort', Nemeth argues that it is not so much a difference in quantity but of quality. This is an important area of enquiry and one

deserving more attention.

The overwhelming bulk of evidence rejects the single process model of social influence but supports the view that there are different cognitive processes which have different manifestations upon various levels of influence. The nature of these cognitive processes and their precise effects upon different levels of influence is not clear cut.

CHAPTER 4 - SOCIAL CATEGORIZATION AND SOCIAL INFLUENCE

4.1 Introduction to Chapter 4

It was stated at the beginning of chapter three that, in order to discuss theories of social influence, it is necessary to consider explanations which address both minority and majority influence because these two processes are so closely linked. We have seen that explanations in theories of social influence are typically located at the 'individual' level and therefore could not account for phenomena occurring at the 'social' level and in particular the effects of social categorization (that is, situations where there is a difference between the source and target of influence in terms of their group membership). In this chapter I will examine each theory of social influence in order to elucidate its suitability in explaining the effects of social categorization.

The aim of this chapter is to examine the effects of social categorization upon social influence and attempt to derive a theory of social influence which can adequately explain these effects and thus focus upon the 'individual' and 'social' level of explanation. In order to achieve this I shall first consider what is meant by group membership and then examine a number of studies which have looked at the effects of group membership upon social influence. Following this I will consider the theoretical implications of the finding that

social influence can be affected by the social categorization of the source of influence and derive a model which attempts to address this issue.

4.2 Group Membership

4.21 Definitions of Group

As a starting point in an examination of group membership it is important to consider first what is meant by the concept of group. Definitions of the concept of a group vary greatly and are affected by the theoretical perspective adopted by the researcher. In their influential book on research into groups Cartwright and Zander (1968) noted more than eight definitions of a group. Whereas some of their definitions revolve around the issue of frequency of interaction (for example, a group is a number of people who meet frequently), others emphasize how members define themselves (for example, a group is a number of people who consider themselves to be a group).

A recent initiative in this area has been to consider group membership from the group members' perspective, in that a group is defined as a collection of people who categorize themselves as a group on some dimension. Turner (1982) has developed this further and has suggested a cognitive definition which asserts that a group is two or more people who share a common cognitive dimension. Cognitive dimension refers to any attribute that can vary along a continuum and whereby individuals can locate themselves and other members of their group and consequently those individuals who are not in their group (the latter

are often referred to as the outgroup).

The above definition implies that the categorization of ourselves as members of a group automatically also implies the exclusion from other groups; for example, if I consider myself to be a psychologist I am not only aware of the group I belong to but also of those I do not, such as biologist, chemist etc.. Once this categorization is achieved, membership of my own group and other groups are overlaid with the positive-negative connotations associated with ingroup-outgroup membership. Put simply, my own group acquires ingroup status and is perceived as positive whilst other groups are perceived as outgroups and seen in negative terms.

As a consequence of categorizing oneself as belonging to a group (and by default excluding oneself from other groups), individuals attain a group identification which incorporates information concerning the groups they belong to and those they do not. This analysis is couched in terms of social identity theory which I shall be considering in more detail later in this chapter. However, an important point to include here is that the dimension upon which individuals form their group membership can vary from one which is perceived to be an important dimension, such as a family, to one which is perceived as being a relatively unimportant dimension, such as a group of fellow travellers on a train. In this sense, a group can exist at different 'levels' which differ in terms of the relative importance of the dimensions to the individual.

4.22 Different Types of Groups

The term 'group' has been applied to many different settings and, therefore, it is useful to have some means of labelling different groups. An often used distinction has been between primary and secondary groups. Primary groups are small groups which interact frequently and where group members attach some importance to their membership, for example, a family or work group. Primary groups can either be informal in that their creation has been spontaneous, such as a group of friends, or they can be formal where certain rules apply to their activities, such as a working party. On the other hand, secondary groups tend to be much larger than primary groups and tend to be formal organisations, such as a factory.

It is not uncommon for individuals to belong to a number of different groups, for example, family, work or political groups, a race or nation. Not all these group memberships are salient to the individual at all times, for example, when I am at work my membership to my work group is most salient, whereas this changes when I am at home (this is the conception of group membership most commonly employed in research). Hyman (1942) coined the term reference group. These are groups which are a reference point for an individual's values and opinions. In Turner's way of conceptualizing groups, reference groups are those which are perceived to be positively categorized on a highly desirable dimension. This is an important concept which I shall return to later. An important point to bear in mind at this stage is that a person's reference group need not be one of which he or she is a member; quite the contrary, reference groups are often those to which individuals aspire to belong.

4.3 Research into Social Influence and Group Membership

In this section I will examine some research which has looked at the effects of group membership upon social influence. Most of these are field (rather than laboratory) studies, that is investigations which occur in 'real life' situations where the researcher tends to have little control over the situation. Due to this limitation of field research it is often not possible to manipulate the nature of the source of influence (for example, examine majority and minority influence). Furthermore, the lack of control over the situation increases the chance that additional factors, other than those proposed by the researchers, determine the findings. However, for all the problems inherent in field studies they provide useful insights into the processes of social influence and have acted as a springboard for contemporary experimental research in this area.

The first study I shall examine is the well known investigation conducted by Newcomb (1952). Newcomb conducted his study during the 1930's at Bennington college for women in the U.S.A.. The students who entered this college were typically from conservative families and held conservative views themselves. In contrast, the senior students and staff held more liberal attitudes. The college was keen to allow students and staff to express their views about social problems in order to acquaint students with the contemporary problems of the world. Newcomb found that the initially conservative students shifted their attitudes towards those of the more liberal senior students and staff during their four years at the college. However, this did not happen to all the students but only to those who perceived the senior students and staff as a positive reference group; the attitudes of those who did not, remained unaffected. In a follow-up study, twenty-five years after the initial study, Newcomb et al. (1969) found

that most of the women had retained the liberal attitudes acquired at college. This cannot be attributed to becoming more liberal with age as the women who attended the college were more liberal than a matched comparison sample who had not gone to the college.

Newcomb's study shows that individuals' attitudes can be affected by the group membership of the source of influence and that the importance the target individuals (in this case the students at Bennington) attach to membership of that group can be critical in determining whether influence occurs. Furthermore, the follow-up study shows how strong social influence can be when associated with a positive reference group.

The field studies by Newcomb (and others, for example Siegel and Siegel, 1957) can be complemented by considering the approach and findings of an interesting series of laboratory experiments concerned with persuasion which was undertaken at Yale University by Hovland and his colleagues (see Hovland, Janis and Kelley, 1953). The aim of this research was to find out which factors affect persuasion. This research program is too large to consider in detail here so only those parts relevant to the present discussion shall be presented.

A number of the studies investigated factors pertaining to the source of influence with the consistent finding that a more credible source caused subjects to change their attitudes more than a less credible source even when they gave the same communication (for example, Hovland and Weiss, 1951). The manipulation of credibility often overlaid out-group status, for example, Aronson and Golden (1962) found that white school children were more influenced by a speech concerning the usefulness of arithmetic when given by an engineer than

by someone who washes dishes (it is not unreasonable to assume that someone who washes dishes is likely to be perceived as of low status compared to an engineer). Furthermore, the school children were more influenced by a white engineer (same colour as themselves) than a black engineer. This effect was more noticable for prejudiced school children than for those who were non-prejudiced showing that strength of discrimination (that is, setting oneself apart from an outgroup) had an effect.

From such studies it can be seen that group membership can affect social influence. However, the exact nature of these effects cannot be determined due to the difficulty of understanding the type of social influence which took place. For example, many commentators refer to Newcomb's study as one of initially conservative students coming to conform to a liberal majority (because they valued their group membership); however, this conclusion is problematic as there were many uncontrolled confounding factors. Therefore, there is a need to conduct controlled experiments where the nature of the source of influence can be defined in order to be able to determine its effects. However, before discussing this research I will first consider the theoretical implications of the finding that group membership affects social influence processes and, in particular, the ability of current theories of social influence to explain this effect. After this I will discuss a number of experiments which have examined the effects of group membership upon minority influence (the choice of minority influence is not a conscious attempt to exclude majority influence but I am unaware of any study which has looked at majority influence and group membership).

4.3.1 Theoretical Implications of the Effects of Social

Categorization upon Social Influence

In this section I will consider the theoretical implications of the finding that social influence processes can be affected by social categorization and in particular that a source of influence which forms part of the ingroup of the target of influence tends to have more influence than a source of influence who represents an outgroup. As a starting point it is useful to consider how the models of social influence could account for this finding (the models are described in chapter 3). In discussing these explanations I would like to draw a distinction between explanations which rely on factors which are 'internal' to the source of influence, such as personality, credibility, etc. and those which rely on factors which are 'external' to the source of influence such as, social context, persuasibility of target of influence.

According to Moscovici's Dual Process Model, social influence is determined by attributions which arise from the source of influence's behavioural style, such that the greater the ability of the source of influence to cause the target of influence to attribute that it is confident, consistent, committed, etc., the more likely that influence will take place (see section 3.2.1). The relationship between the perception of a positive behavioural style and the amount of influence is linear, as one increases, so does the other. A strict interpretation of this theory would advocate that a given communication would yield a similar perception of behavioural style regardless of its group membership and therefore should have a similar amount of influence. Of course, this is a very simple interpretation of Moscovici's model and he would argue that the perception of behavioural style can be affected by group membership, such that being

part of the ingroup enhances the perception of a positive behavioural style relative to an outgroup.

Although this is a reasonable argument it does not follow from the theory. It is quite clear from the model that the explanation of social influence is located at the 'internal' level, that is, the cause of influence is to be found solely within the source of influence whilst factors pertaining to the target of influence do not affect this process. Yet as noted above, in order for the model to explain the effects of social categorization it has to assume the mediating effect of factors outside the source of influence, that is the differential perception of the behavioural style by the target of influence. The addition of these 'extra' assumptions in order to explain the effects of social categorization violates the fundamental principle of Moscovici's Theory, namely that minority influence is solely located within the source of influence's behavioural style.

Much early research into social influence focussed on conformity and as a result of this work the Functionalist model of social influence was developed. This model proposes that social influence is mediated through dependency whereby individuals are dependent upon the source of influence either for information to verify their position and/or for the psychological benefits the source can provide. The unsuitability of this approach for explaining social influence process (particularly minority influence) has been considered earlier (see section 3.2.21). This explanation may be able to account for the effects of social categorization if one assumes that ingroups cause greater dependency than outgroups which in turn leads to greater influence. However, this does not overcome the problem of explaining social influence process without recourse to dependency.

The final explanation of social influence which we shall consider in this section is that proposed by Social Impact Theory (SIT, see section 3.2.22). According to SIT social influence is determined by the amount of 'impact' experienced by the target. This impact is a function of the strength, immediacy and number of the source of influence. Like Moscovici's Theory, SIT tends to explain social influence with recourse to factors internal to the source of influence and consequently a similar problem occurs when trying to explain the effects of social categorization. However, it is possible ingroup sources of influence have more 'strength' (that is, are more salient and important) than are outgroup sources of influence which increases their impact and consequently leads to greater influence.

In each of the three explanations of social influence discussed above, a number of problems have been identified which limit their explanation of the effects of social categorization. The principal problem is that there is a tendency to explain social influence in terms of factors located within the source of influence thus neglecting the effect of factors pertaining to the target of influence. This raises two important points, first the limited explanatory power of current theories of social influence and second, the need to take into consideration factors internal and external to the source of influence.

In this section I have dealt with theoretical models of social influence whilst in the next section I will consider the issue of which process of social influence is most suitable for explaining the effects of social categorization in general. In particular, attention will be focused on normative and informational social influence. The

distinction has been made between these sections because these forms of social influence do not form theoretical positions by themselves rather they tend to cut across existing theories.

4.32 In Search of a Process

While in the last section attention was focussed on the type of theoretical model required to explain the effects of social categorization, in this section attention is focussed on the most suitable process to explain the effect. As noted before these are similar and related questions but are treated separately for ease of presentation. It is worth restating the objective stated towards the end of the last section of the need to have an explanation of social influence which considers factors internal and external to the source of influence. This objective will serve as part of the criteria in choosing a suitable process.

Most theories of social influence have postulated the two forms of social influence identified by Deutsch and Gerard (1955) (see section 1.2.4). They made a distinction between normative social influence which is "..... an influence to conform with the positive expectations of another" and informational social influence which is " an influence to accept information obtained from another as evidence about reality".

Normative social influence can easily be applied to the effects of social categorization because one would expect an ingroup source to be seen to have more 'positive associations' than an outgroup source and/or that it can administer social approval. Likewise,

informational social influence could be employed as an explanation since individuals tend to value and use information from ingroup members as better models of reality than information arising from an outgroup. However, the problem with these two processes are that they are firmly located within the dependency model. Therefore similar problems occur when applying them to explaining the process of influence as identified for the Functionalist model, discussed in the last section.

An alternative to normative and social influence which may be of value in explaining the effects of social categorization has been proposed by Turner (1982) and termed 'referent informational influence'. The advantage of this perspective is that it has been specifically developed to explain the effects of ingroup versus outgroup influence. The focus of this perspective is to understand the experience of being influenced and the consequence of agreeing with a source of influence.

4.3.21 Referent Informational Influence (RII)

The concept of referent informational influence (RII) was developed out of the the work into intergroup behaviour conducted at Bristol University by Tajfel and his colleagues. The research led to the development of the highly influential Social Identity Theory which is based on the concept of 'social identity' (that is, our knowledge of and the emotional value we place on belonging to certain groups) which is derived from the process by which individuals categorize people into different groups. Basically, individuals are motivated to acquire a positive social identity and do so by discriminating against an outgroup. One of the consequences of this process is that individuals

tend to over-evaluate ingroup characteristics and under-evaluate outgroup characteristics in order to maximize the perceived differences between the groups. In fact, maximizing the difference between the ingroup and outgroup appears to be^a stronger motive than merely maximizing ingroup gain (Tajfel et al. 1971).

Tajfel (1959, 1972) has distinguished between the inductive and deductive functions of the process of categorization. The deductive function refers to the process whereby individuals are assigned characteristics on the basis of their group membership (for example, Scottish people are mean, accountants are boring, males are aggressive). On the other hand, the inductive function refers to the process by which characteristics are inferred from one or more individuals to all members of that category (for example, assuming that all estate agents are devious from observing a few instances of deviousness). Therefore, induction is the process of inferring typical group characteristics from experiencing a few group members while deduction is the process of assigning these typical group characteristics to all group members. Both these processes can be observed in the formation of stereotypes. Their effect is that, in intergroup situations, there is a tendency for individuals to minimize the perceived differences (such as, personality, ability, opinions) in members of the ingroup whilst maximizing the perceived differences between members of the ingroup and outgroup (Tajfel, 1969).

There is evidence that the stereotyping effects caused by a categorization process are exaggerated in situations where ingroup membership is made salient (for example, Hensley and Duval, 1976) and when ingroup membership is evaluated favourably (for example, Myers, 1962, Kahn and Ryan, 1972). These researchers show that making group

membership salient has certain consequences. This can be more dramatically observed in studies which have shown that group members conform to group norms even in the absence of explicit attempts to exert social influence (for example, Charters and Newcomb, 1952; Doise, 1969). Such work demonstrates that group members have a model of the critical group norms which characterise their group and conform to these in order to obtain a positive group identity.

Turner (1982) has taken this reasoning further and states that "Common category characteristics are inferred from the available exemplars of the category, including oneself, and then automatically assigned, along with long-term critical traits, to all members, again including oneself" (p.29). In other words, group members are aware of the characteristics of a typical group member and assign these characteristics to themselves and other group members.

In order to explain this process Turner has developed the concept of Referent Informational Influence (RII) which has links with Deutsch and Gerard's (1955) Informational Social Influence. RII can be summarized as having three stages; first, individuals define themselves as members of a particular group, second, they become aware of the typical (or stereotypical) characteristics of that group and third, they assign these typical characteristics to themselves.

Turner (1982) has examined the difference between RII and Normative Social Influence (NI) and Informational Social Influence (II). This comparison will be presented here as it is relevant to the discussion in the last section which directly examined the suitability of these two processes to explain the effects of social categorization and social influence.

"(i) Who is one influenced by?

NI: People with power to reward conformity and punish deviation
(usually attractive others).

II: Similar people who provide information about physical or social reality.

RII: People who provide information about critical norms of one's social category.

(ii) What is the vehicle of social influence?

NI: Social communication from group members or 'group pressure'.

II: Social comparisons with group members.

RII: Social identification - the process by which one defines oneself as a category member, forms a group stereotype on the basis of other category members' behaviour, and applies the stereotype to oneself.

(iii) Under what conditions does conformity increase?

NI: When one's behaviour is under surveillance by fellow group members.

II: When physical or social reality is ambiguous, complex or problematic in some way.

RII: When one's group membership (self-definition as a group member) is salient.

(iv) What does one conform to?

NI: The observable behaviour of other group members.

II: Ditto.

RII: One's own beliefs about the appropriate behaviour for all category members." (P.31-32).

4.4 Research into Minority Influence and

Social Categorization

Having established the importance of social categorization to the social influence process I shall now turn to review research which has examined the effects of social categorization upon minority influence.

One of the first experiments to consider the effects of social categorization upon minority influence was conducted by Nemeth and Wachtler (1973). Subjects were required to indicate their preference between 19 pairs of pictures, one of which was labelled 'Italian' and the other 'German' (the labelling was random). The experiment took place in a group of five, which consisted of four American subjects and one confederate who consistently chose the Italian or German picture throughout the experiment. The confederate was presented as being of Italian, German or unknown ethnic origin. In addition to these six experimental conditions there was also a control condition where no confederate was present.

Nemeth and Wachtler predicted that when a confederate consistently preferred a picture from his/her own country it would be seen as biased and therefore have little influence. However, their results were difficult to interpret as there was an unexpectedly significant preference for Italian pictures in the control condition (that is, when no confederate was present). Also, to confuse matters even more, subjects became more pro-German (compared to the control condition) in every experimental condition.

In a post-experimental questionnaire subjects were required to indicate how biased they thought the other subjects in the group had

been. The confederates were seen as being more biased than the naive subjects. More importantly, when the confederate preferred a painting from his/her own country they were seen as having the greatest bias. This is supportive of Nemeth and Wachtler's original hypothesis but does not explain why this perceived increased bias did not lead to a decrease in influence. Nemeth and Wachtler suggest that when a confederate showed a preference for pictures from his/her own country, he/she may have been seen as having greater knowledge and hence competence. "Thus, rather than being a negative quality, this bias on the basis of ethnic origin may have made the situation more comprehensible and may have suggested knowledge and honesty on the part of the confederate". One should treat this explanation with caution because, as the experimenters themselves point out, this may have been true when the German confederate showed a preference for German paintings but not when the Italian confederate showed a preference for the Italian paintings since the latter confederate did not have superior influence compared to the other conditions.

An important paper published by Maass, Clark and Haberkorn (1982) addressed some of the issues arising out of the Nemeth and Wachtler paper and provided an important distinction which was to have a major influence on research in this area. The authors made a distinction between a single minority defined as "individuals who deviate from the majority only in terms of their beliefs" and double minority which "differs from the majority not only in terms of their beliefs but also in terms of ascribed category membership".

In their experiment four male subjects discussed the topic of abortion or death penalty with either two male (single) or two female (double) confederates who argued a minority position. They found that a single

minority tended, although not significantly, to have more influence than a double minority. A post-experimental questionnaire revealed that the double minorities were perceived as having greater self-interest in the topic than did single minorities. Maass et al. concluded that the attribution of self-interest may, "..... offer an alternative cause for the minority's deviance and, thus allow the majority observers to discount the arguments of the minority". In other words, a minority may lose its potential influence if it argues in favour of its own position since its arguments may be considered biased.

There are a number of problems in the Maass et al. experiment. First, since different confederates were employed in each condition, it is possible that the effect could have been due to differences in the confederates rather than the single/double minority manipulation. Second, and more importantly, the single minority always consisted of males while the double minority always consisted of females; the fact that single minorities had more influence could be due to a greater influencing ability of males as opposed to females. A more satisfactory design would be to manipulate the sex_{of} the subject and the minority status, such that both male and female subjects face a single and double minority (this hypothesis is tested in my fourth experiment, chapter 6). Third, the data for the measurement of self-interest was collapsed across the abortion and death penalty issues because there was no significant differences between them. Whilst it is possible that the minority of females (double) may have been seen to have greater interest in the topic of abortion than a minority of males (single), it is hard to imagine why the same should be true for the death penalty issue.

Maass and Clark (1983a) have tried to overcome some of these problems by having groups of four (presumably heterosexual) female subjects discuss the topic of gay rights with two female confederates who argued in favour of gay rights. The confederates were either presented as 'straight' (single minority) or 'gay' (double minority). They found that single minorities caused subjects to become more in favour of gay rights than did double minorities thus replicating the findings of the Maass et al. (1982) experiment. Unfortunately no measures of self-interest^{were} reported, therefore one can only speculate whether the gay minority was not as influential as the straight minority because of a greater perceived self-interest.

The final experiment to be considered was conducted by Mugny, Kaiser and Papastamou (1983). The experiment was conducted before a referendum in Switzerland which showed that the majority of Swiss people (over 83%) were not in favour of the presence of foreign workers in their country. The subjects were secondary school pupils who filled in questionnaires about the presence of foreign workers a few days before the referendum took place. After completing the questionnaire they read a text which was favourable to foreign workers and was therefore a minority position as only about 16% of the Swiss population agreed with it at the subsequent referendum. The text was portrayed as being the work of either a Swiss or foreign minority group. Subjects indicated on a 7-point scale the extent of their agreement with the text. Consistent with previous research, the experimenters found that subjects were more influenced by the Swiss minority (single) than the foreign minority (double).

In summary, the experiments of Maass et al. (1982), Maass and Clark (1983a) and Mugny et al. (1983) found that a minority which was a

similar social group as the subjects had greater influence than a minority which was from a different social group. Nemeth and Wachtler (1973) predicted such a finding but failed to find the effect due to an unexpected high preference for Italian paintings in the control condition.

4.4.1 Issues arising out of Research into Social Categorization and Minority Influence

Three issues can be noted in these studies which have been taken into consideration when devising the main research design of this thesis (see section 6.2). First, all the previous experiments employed a double minority which had higher self-interest in the topic than the single minority. The variables of self-interest and minority status have thus been confounded with the result that it is unclear whether the double minority had less influence because it was from a different social group than the single minority or because it was perceived as having a greater self-interest and therefore biased (cf. Maass et al., 1982).

Mugny has suggested that there are certain 'ideological barriers' to the processes of influence which reduce the potential impact of minorities. He calls these barriers 'naturalization' processes which result in "destroying the credibility of a minority by imputing its consistent behaviours to 'natural characteristics'" (Mugny, 1982). One of the most common forms of naturalization is psychologization which involves attributing the cause of a minority's behaviour to internal personal factors. It is possible that the perception of self-interest could be a form of psychologization in that subjects

) attribute the behaviours of the minority to an internal cause, that is as being biased.

) Therefore, the first aim of my own research was to utilise a topic which had equal self-interest for both groups. The issue raised above about self-interest is not solely a methodological point, for, although there are minorities which espouse positions which are only in their own interest (for example, Black Power), there are also minorities which argue positions which are in the interests of other groups besides themselves (for example, environmentalists). While the former may be considered to be a self-interest group the latter can be considered a shared interest group.

) It is important to stress that the distinction between self- and shared interest is not limited to the source of influence. For example, Mugny, Perez, Kaiser and Papastamou (1984) conducted an experiment where Swiss or foreign subjects received a minority communication, arguing in favour of the presence of foreigners, from either a Swiss or foreign source of influence. In this situation the definition of self-interest can only be conceptualized when considering the relationship between the source and target of influence (for example, the foreign minority arguing in favour of foreigners would be considered a self-interest group to the Swiss subjects but a shared interest group to the foreign subjects).

) The second issue relevant to this field of research concerns the level at which minority influence is measured. Most of the experiments have only measured minority influence on public responses. This is particularly important as it has been consistently shown that minorities tend to have greater influence on a latent or private level

than upon a manifest or public level (see section 2.4). Therefore, a second aim of my own research has been to measure the effects of social categorization upon minority influence on a public and private level.

The third issue arising out of previous research concerns the allocation of individuals into different categories. Recent research into intergroup relations by Tajfel and his colleagues has shown that the mere categorization of individuals into groups is sufficient to promote intergroup discrimination (for example, Tajfel, Flament, Billig and Bundy, 1971). This results in over-evaluation of the ingroup and under-evaluation of the outgroup. Tajfel and Turner (1979) suggest that individuals are motivated to gain self-esteem through the acquisition of a 'positive social identity' where social identity refers to the "individual's knowledge of his membership of certain social groups and the emotional and evaluative meaning resulting from their membership" (Tajfel, 1972). A positive identity is achieved for the individual by engaging in self-favouring social comparisons with other groups so that one's own group is perceived more favourable than the other group. While the distinction between single and double minorities is similar to that between ingroup and outgroup minorities, previous research has used groups that differ in terms of group membership but do not engage in intergroup discrimination. An attempt will be made in my own research to use groups that actively discriminate against each other.

4.4.2 Applying Referent Informational Influence to Minority Influence

In discussing the concept of Referent Informational Influence, Turner

) was specifically interested in the way individuals conformed to the group norm. However, our concern in this thesis is minority influence and therefore it is necessary to make RII relevant to this, especially as it has been argued that the process of conformity is not suitable for explaining minority influence. This analysis has been attempted by Mugny (1982) who states that, as a consequence of being influenced, individuals change their social identity to match that of the source of influence. He has paraphrased Turner's three stages of RII to a situation of social influence; "(1) the target-subject defines the source of influence attempt as belonging in a particular social category; (2) the subject 'knows' the stereotypical characteristics of this category; (3) when he adopts or approaches the response of the source, he assigns to himself not only this response but also the stereotypical characteristics of the source" (Mugny and Papastamou, 1982,p.381).

) This analysis suggests that following social influence the target not only agrees with the source's response but also becomes part of its group and self-attributes the typical characteristics arising from membership of the source's group. It follows that social influence is more likely to occur when the image of the source of influence corresponds with positive connotations than when it corresponds with negative connotations. Therefore the extent to which individuals will change is determined by the extent to which they have to redefine their social identity following social influence. This may explain why majorities tend to have more influence than minorities (at least publicly) since the latter are associated with more negative characteristics than the former and hence would require a greater change in terms of identification. The resistance to agree with a minority may be due to the fact that self-attributing the negative

characteristics associated with the minority group involves a certain 'social cost' (Mugny, 1982) to the individual.

4.5 Social Identification Model of Social Influence

A number of relevant ideas have been presented which have helped in understanding the effects of social categorization upon social influence. In this section I would like to integrate and develop some of these ideas in order to achieve a framework in which to understand the processes of minority and majority influence and, in particular, the effects of ingroup and outgroup minorities. This model is based upon the work of Tajfel, Moscovici and Mugny and focusses upon the individual's identity and the consequence to that identity as a result of social influence processes. As a starting point, it is necessary to examine the consequence of social influence in terms of the redefining of social identification. It is this perspective which will later be tested in the experiments reported in chapters 5-8.

Mugny has used the term 'social cost' to signify the change of identity following minority influence. This term refers to the fact that when individuals change their social identification they also self-attribute the negative connotations associated with minority status. As Mugny (1982) states "..... social identification with the minority has certain hazards; in fact, to identify oneself with a minority is to run the same risks that the minority runs, since this identification involves attributing to oneself the characteristics of the minority" (p.128). The concept of 'social cost' is very useful in understanding why individuals resist social influence, however, I would like to suggest two alterations to this concept which would

improve its explanatory power and increase its heuristic value.

First, in discussing the concept of social cost Mugny has not outlined the defining parameters of the concept, that is, what factors contribute to social cost. This may well be due to the fact that the concept is a new one and ambiguity is preferable. However, research into social identity has often proposed that there also exists a personal identity. Whereas social identity is concerned with individuals' knowledge of their group memberships, personal identity is concerned with the individuals' knowledge of their unique (personal) characteristics. With this in mind, it would be easy to make the mistake that social cost refers only to characteristics deriving from social identity and not from personal identity. Therefore I would like to replace the term 'social cost' with 'psychological cost' to refer to the change in individuals' identity (social and personal) as a result of social influence processes. The major difference between psychological cost and social cost is that the former is a more global concept which incorporates the latter.

Second, in my opinion the concept of social influence leading to a (psychological) 'cost' is limited because it implies that the only outcome of redefining social identity is one which involves a (negative) cost. This focus could be due to the fact that Mugny's analysis was limited to minority influence where one would expect redefining social identity to incur psychological cost since minorities are usually associated with negative characteristics. However, one can imagine situations where social influence does not lead to changes in identification which result in a psychological cost; in fact, there may be instances where such a change has psychological benefits. In particular, influence attempts by

) individuals or groups who possess a desirable identification (that is, who are associated with positively valued characteristics) would result in a change of social identity in the target individual which is perceived as beneficial since they would be self-attributing the positive characteristics of the desirable group.

) It is the nature of the source of influence which determines whether redefining social identity results in a psychological cost or benefit. To be more specific, groups which are perceived as having a desirable image and would entail the self-attribution of positive characteristics would result in a redefinition of social identity which would involve a psychological benefit. On the other hand, groups which are perceived as undesirable and would entail the self-attribution of negative characteristics would lead to a redefinition of social identity involving a psychological cost (and this is why such groups would be less influential).

) At this stage the model can be summarized formally and then applied to majority and minority influence. Central to this model is the concept of redefining social identity and it is proposed that as a result of being influenced individuals redefine their social identity involving the self-attribution of the stereotypical characteristics believed to be associated with the source of influence's group. It follows that influence will vary as a function of the difference between the strength of identification the individual has with his or her own group and the extent to which the source of influence's group is perceived to be different. As this difference increases the psychological cost/benefit of redefining social identity is greater since the self-attributions become progressively more negative/ positive, resulting in a decrease/increase in influence. The

amount of psychological cost/benefit is determined by (a) the strength of identification with own group and (b) the desirability of the source of influence. It should be noted that this discussion has assumed that groups have an equal self-interest in the topic.

However, when self-interest is not equal, then one has to take into consideration the relevance of the topic to group membership, such that, the more relevant the topic is to group membership the greater would be the resulting psychological cost/benefit of being influenced.

Whether redefining social identity will lead to a psychological cost or benefit depends on the nature of the source of influence and the desirability of the characteristics to be self-attributed. In general, majorities are associated with desirable characteristics and therefore being influenced would involve a redefinition of social identity entailing a psychological benefit. On the other hand, minorities are usually associated with undesirable characteristics and would therefore require a redefinition of social identity which would incur a psychological cost.

At this point it is important to consider the relationship between the psychological cost-benefit dimension and the manifest-latent level of influence dimension. I am in agreement with Moscovici's analysis of comparison and evaluation processes. According to Moscovici, since minorities are perceived to be distinctive (in the sense that they have an anti-normative position), individuals are motivated to engage in a validation process whereby they cognitively reassess the topic under consideration in an attempt to understand the minority's position. As a result of this, if attitude change occurs it is unlikely to be on a manifest level, since individuals will not wish to

The social identification model makes a similar analysis to that of Moscovici. However, there is an important difference concerning the issue of distinctiveness. Whereas to Moscovici distinctiveness concerns attitude distinctiveness, to the social identification model distinctiveness concerns the perceived target source of influence difference in terms of social identification (identification distinctiveness). Of course, to a certain extent, attitudes often overlay group membership, such that, individuals from a similar group have a similar belief system. The greater the identification distinctiveness, the greater the attitude change. However, when identification distinctiveness correlates with psychological benefit (such as, occurs in majority influence), most attitude change occurs on a manifest level (relative to a private level) in order to publicly self-attribute the desirable characteristics of the source of influence. On the other hand, when identification distinctiveness is correlated with psychological cost (as in minority influence) most attitude change occurs on a private level (relative to a manifest level) in order that the individual avoids publicly self-attributing the undesirable characteristics associated with the source of influence.

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minority influence. Drawing upon the above analysis of the social identification model of social influence, it is quite clear what predictions it would make concerning ingroup and outgroup minorities. Since outgroup minorities are associated with a more undesirable image (and associated with more negative characteristics) they would impose a greater psychological cost on the target group when they come to redefine their social identity following influence attempts. Therefore, outgroup minorities will have less influence than ingroup minorities on a public level since individuals will want to avoid publicly to self-attribute the negative characteristics of the outgroup minority. However, since outgroup minorities will be more distinctive than ingroup minorities, they will cause individuals to engage in a validation process to a greater extent, resulting in more private influence. In short, ingroup minorities will have superior influence, compared to an outgroup minority, in public while the opposite should be true in private.

4.6 Hypotheses

In this section I shall outline the hypotheses which are tested in the experiments presented in chapters 5 to 8. These hypotheses are derived from the social identification model described earlier and are presented in the order in which they are tested in the experiments. The first group of hypotheses are concerned with the effects of majority and minority influence upon public and private levels and are similar to those espoused by Moscovici (1980). These hypotheses are tested in experiments 1, 2 and 3 discussed in chapter 5.

Hypothesis 1 - Majority influence should be greater in public than in

private. Since majorities are associated with a desirable identification, individuals' acceptance of influence represents a 'psychological benefit' whereby they self-attribute the positive characteristics associated with majorities.

Hypothesis 2 - Minority influence should be greater in private than in public. Since minorities are associated with negative characteristics, individuals will resist publicly agreeing with a minority in order to avoid self-attributing its negative image. To publicly accept the influence of a minority would result in a 'psychological cost' to the individual. However, since minorities are distinctive (in terms of attitude and identity) they motivate individuals to engage in a 'validation process' whereby they cognitively re-evaluate the minority's communication which results in a private or latent change.

Hypothesis 3 - There should be an interaction between the nature of the source of influence (that is majority or minority) and the level of influence (that is, public or private). This follows from hypothesis 1 and 2 which predicts a differential effect for majorities and minorities upon different levels of influence (that is, majority influence will be greater in public than private while the opposite effect is predicted for minority influence).

The next group of hypotheses are concerned with the effects of ingroup and outgroup minorities upon public and private levels of influence. These hypotheses are tested by experiments 4, 5, 6 and 7 and discussed in chapters 6 and 7.

Hypothesis 4 - Ingroup minorities should have more influence than

outgroup minorities. This hypothesis is consistent with previous research in this area. The 'psychological cost' associated with being influenced by an outgroup minority is greater than that associated with an ingroup minority. Therefore, outgroup minorities should have less influence than ingroup minorities since individuals will not want to publicly self-attribute the negative identification associated with outgroups.

Hypothesis 5 - When the categorization dimension concerns sex, ingroup minorities should have more influence than outgroup minorities regardless of the sex of the minority. This hypothesis is specific to a methodological problem noted in an experiment by Maass et al. (1982) where male subjects received influence attempts either by an ingroup minority consisting of males or an outgroup minority consisting of females. The greater influencing ability of ingroup minorities in that experiment could have been due to the greater influencing ability of males (as opposed to females) rather than due to the fact that it represented an ingroup to the subjects (see section 4.4). According to the social identification model, a minority of the same sex as the subject should have more influence than a minority of the opposite sex as the subject for both male and female subjects.

Hypothesis 6 - When responses are made in private, outgroup minorities should have more influence than ingroup minorities. Since outgroup minorities are more distinctive in terms of their identification they would impose a greater 'psychological cost' in publicly agreeing with them compared to ingroup minorities; outgroup minorities motivate individuals to engage in a 'validation process' to a greater extent than do ingroup minorities and hence result in greater private change.

Hypothesis 7 - There should be an interaction between the nature of a minority's group membership (that is ingroup or outgroup) and the level of influence (that is, public or private). This follows from hypotheses 5 and 6 which predict a differential impact of ingroup and outgroup minorities upon different levels of influence (that is, ingroup minorities should have more influence than outgroup minorities in public responses while the opposite should be true for private responses).

Hypothesis 8 - In situations where no influence attempts are made, changes in attitudes should not be a function of the procedure for collecting public and private responses. In control conditions, where subjects do not receive a persuasive communication, there should be no difference between responses which are made in public and those made in private. This result would indicate that any differential influence of majorities and minorities observed on different levels of influence is due to the influence manipulation itself, and not the response manipulation.

The last group of hypotheses are concerned with the effects of social categorization upon minority influence when the social categorization dimension is based upon relatively trivial criteria. By examining ingroup and outgroup minorities which are categorized by a trivial dimension it is possible to examine the minimum conditions necessary for ingroups to have more influence than outgroups. These hypotheses are tested by experiments 8,9 and 10 and discussed in chapter 8.

Hypothesis 9 - Ingroup minorities should have more influence than outgroup minorities when the categorization dimension is based upon

relatively trivial criteria. There is a tendency for individuals to assume that an outgroup has a more negative identification than an ingroup even in the absence^{of} social information to support such a conjecture. Even when categorization is based upon trivial criteria, individuals will tend to overlay such a dimension with evaluative connotations that favour the ingroup and discriminate against the outgroup. Since 'psychological cost' is associated with the group membership of the source of influence, outgroup minorities will be associated with more 'psychological cost' than ingroup minorities even when categorization is based upon relatively trivial criteria because subjects assume that outgroups have a negative identification (compared to an ingroup).

Hypothesis 10 - Minorities which are associated with a desirable image (that is, positively valued characteristics) should have more influence than minorities which are associated with an undesirable image (that is, negatively valued characteristics). The 'psychological cost' incurred when being influenced by a minority with a desirable identification should be less than that when being influenced by a minority with an undesirable identification. In this sense, desirability of the identification highlights an intergroup context, such that undesirable identification acquires an outgroup status.

Hypothesis 11 - The predicted effects of social categorization upon minority influence should only appear when the categorization dimension is supported by an intergroup context. In other words, when individuals are led to believe that group membership is not associated with intergroup attributions that favour the ingroup and discriminate against the outgroup, there should be no effect of social categorization. For example, the effect of ingroup minorities having

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PART TWO : THE EXPERIMENTS

CHAPTER 5

5.1 Introduction to Chapter 5

Chapters 5,6,7 and 8 will report on the 10 experiments which were conducted in order to test the hypotheses set out in section 4.6. Three experiments are discussed in this chapter which were exploratory in nature and so can be considered to be pilot studies. They are nevertheless reported here because they contributed to the theoretical development of the social identification model and the development of the research design which is discussed in the next chapter. The first two experiments address the hypotheses concerning the differential influence of minority and majority influence upon a public and private level. Three hypotheses concerning the first two experiments can be stated. These are described in more detail in the last chapter and shall only be briefly outlined here. The first hypothesis states that majority influence should be greater when responses are made in public than when made in private. Contrary to this, minority influence should be greater in private than in public (hypothesis 2). Finally, due to the differential impact proposed by the first two hypotheses, there should be an interaction between the nature of the source of influence (that is, majority or minority) and level of influence (that is public or private).

The third experiment discussed in this chapter was a preliminary

investigation into the effects of social categorization upon minority influence. The hypotheses relevant to this experiment will not be discussed here as the experiment contained a number of flaws (nevertheless it was useful for developing the main research design of this thesis).

5.2 Experiment 1

5.2.1 Method

5.2.11 Subjects and Design

The subjects were 24 (14 males and 10 females) members of staff from the Open University. Subjects' occupations ranged from administration, secretarial to academic (none of the subjects were employed within the Psychology Discipline).

Subjects were randomly assigned to either the majority or minority influence conditions. The design was thus a 2(minority v majority) x 2(direct v indirect influence) with the first variable being a between-subject factor and the second variable a within-subject factor. There were 12 subjects in each condition.

5.2.12 Procedure

The experiment was conducted in two stages with approximately a duration of two weeks between each stage.

Stage 1: Subjects completed a 16 item questionnaire developed by Mugny (1982) to measure attitudes towards responsibility for pollution (see Appendix A). Each item was accompanied by a 9-point scale (from 1 'Totally Agree' to 9 'Totally Disagree').

Stage 2: Approximately 2 weeks after stage 1, subjects were asked to complete the same questionnaire after they had read a communication which was either alleged to represent viewpoints held by under 10% of the population (minority influence condition) or by over 90% of the population (majority influence condition). This communication consisted of 5 paragraphs, some of which placed total blame for pollution upon industries (for example, the car industry) while others exonerated individuals (for example, farmers). The full text is contained in Appendix B. Note that the 'slogans' used by Mugny to induce an attribution of a fair or rigid communication were not used in this experiment.

After completing the questionnaire for the second time, subjects rated the image of the source of influence upon four indices of behavioural style: consistent, committed, confident and rigid. Ratings were made upon 9-point scales.

5.2.2 Results

5.2.21 Influence Scores

The questionnaire consisted of four types of statements;

- (a) four statements blaming industry for being responsible for

)
pollution,

blaming

(b) four statements social categories,

(c) four statements denying that industry was to blame and,

(d) four statements denying that social categories were to blame.

)
Comparison of the questionnaire items with the text reveals that
statements (a) and (d) appear almost verbatim within the
communication. Any changes on these items will reflect direct
influence. On the other hand, statements (b) and (c) do not appear in
the text but are implicit within the text's arguments. Any changes on
these items will reflect indirect influence. Influence is calculated
as the difference between pre-test and post-test questionnaire scores.
Mean influence scores are given below in Table 1.

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Table 1

Mean Influence scores as a Function of Source of Influence*

	Direct	Indirect
Minority Influence	0.42	0.31
Majority Influence	0.56	-0.29

)
[*scores represent mean change on 9-point scales where a positive
score represents change in the direction of the source of
influence, n=12]

)
The influence scores were subjected to a 2(minority v majority
influence) x 2(direct v indirect item) ANOVA. Overall there was no
difference in the amount of influence caused by a minority ($X=0.63$)

and a majority ($X=0.14$) [$F<1$]. However, there was greater direct influence ($X=0.49$) than indirect influence ($X=0.01$) [$F(1,22)=10.54, P<0.004$] and, as predicted by hypothesis 3, there was a significant interaction between the variables [$F(1,22)=6.36, P<0.02$].

The condition means were examined using the Newman-Keuls comparison of means procedure. There was no difference between direct and indirect items for minority influence which does not support hypothesis 2. However, the first hypothesis was supported as majority influence was greater on direct items than indirect items ($P<0.01$). Also, while there was no difference between minority and majority influence on direct items, minorities caused significantly more change on indirect items than did majorities ($P<0.01$). Looking at the pattern of the means it is clear that the significant interaction between the two main variables is due to the negative influence exerted by majorities on indirect items.

5.2.22 Image of the Source Ratings

Subjects rated the image of the source of influence on four 9-point scales. Mean ratings are given below in Table 2.

Table 2

Mean Ratings of the Image of the Source of Influence*

	Consistent	Committed	Confident	Rigid
Majority	7.42	8.09	7.67	7.66
Minority	7.42	8.17	6.59	6.08
t	0.0	0.43	2.18	2.35
PK	n.s.	n.s.	0.05	0.05

[*scores are means on 9-point scale, higher the score the greater the possession of the attribute, unrelated two-tailed t-test, d.f.=22, n=12]

There was no difference of the rating of 'consistent' or 'committed'. However, majorities were rated as significantly more 'confident' and 'rigid' than were minorities.

5.2.3 Discussion of Experiment 1

The results obtained for experiment 1 are similar to those observed by Moscovici et al. (1981) for their immediate measures of influence. Like that experiment, there was greater influence on direct items than indirect items. All the condition means are in the predicted direction with hypotheses 1 and 3 being supported while hypothesis 2 was not supported. However, since hypothesis 1 and 2 required a comparison between direct and indirect items an important point should be stated. Since direct and indirect items are different measures of influence, differences between them may merely reflect differences in

the measuring techniques themselves rather than in the influence manipulation.

However, comparisons within an item type are legitimate as the same measuring technique is employed. It is interesting to note that minorities had significantly more influence than majorities on indirect items which could be interpreted as some evidence in favour of hypothesis 2.

Experiment 2 uses the similar experimental material as experiment 1 and addresses^a number of problems associated with the research design. These can be briefly noted;

- (i) the same measure of direct and indirect influence is employed which enables comparisons to be made between conditions,
- (ii) instead of direct and indirect measures of influence, public and private responses are taken,
- (iii) whereas experiment 1 measured attitudes towards pollution before and after subjects had read the text (within-subjects measure), experiment 2 only measures attitudes towards pollution after subjects have read a text (between-subjects measure).
- (iv) the source of influence manipulation is checked by asking subjects to estimate the number of people they think would agree with the text.

5.3 Experiment 2

5.3.1 Method

5.3.11 Subjects and Design

The subjects were 64 (38 females and 26 males) Open University students attending Summer School. Their ages ranged from 26-60 years. The experiment was a 2(minority v majority influence) x 2(public v private response) completely between-subjects design with 16 subjects per condition.

5.3.12 Procedure

Subjects were tested in groups of 3-5 individuals. Each subject was given a booklet which stated that a national survey had asked individuals "to what extent do you place the blame for pollution upon industry (for example, automobile industry) and individuals (for example, farmers)?" The subjects were then told that the results of the survey had shown that either under 10% (minority influence condition) or over 90% of individuals (majority influence condition) stated that they "placed total blame upon industry and no blame upon individuals".

The subjects then read a text which reflected this belief, this was the same as for experiment 1 (see Appendix A). After reading the text subjects were required to indicate on a 9-point scale the extent to which they agreed with the source of influence. At this stage the

response manipulation was employed. Subjects were either asked to remember their response because they would later be required to tell the other members of the group (public response condition) or they were asked to place their response into a sealed "ballot box" so that no one would ever know what they had written (private response condition).

All subjects were then asked to indicate "What percentage of individuals in society ^{would} you expect to agree with the position advocated by the passages?". The experiment ended at this point, subjects in the public response condition did not have to reveal their response.

5.3.2 Results

5.3.2.1 Source of Influence Manipulation

Subjects were asked to indicate the percentage of individuals in society they believed would agree with the authors of the text. The purpose of this was to check that the source of influence manipulation had been successful. The data from this was subjected to a 2(minority v majority influence) x 2(public v private response) between-subjects ANOVA. Mean percentage estimates are given below in Table 3.

Table 3

Mean Percentage Estimates of Agreement with the

Source of Influence*

	Public	Private
Minority Influence	39.4 (24.2)	50.3 (23.2)
Majority Influence	65.0 (12.9)	67.8 (19.8)

[*scores refer to mean estimates of percentage, numbers in brackets are standard deviations, n=16]

As expected subjects estimated that more people would agree with the text in the majority condition ($X=66.4$) than when in the minority condition ($X=44.8$) [$F(1,60)=17.65, P<0.0001$]. Also, there was no difference when subjects were in the public ($X=52.2$) or in the private ($X=59.1$) response conditions [$F(1,60)=1.79$] nor was there a significant interaction between the variables [$F<1$].

The evidence from the ANOVA strongly suggests that subjects believed that more people would agree with the text when informed that it represented a majority viewpoint than if told it represented a minority viewpoint. This finding was not affected by the response condition subjects had been in. Therefore one can conclude that the source of influence manipulation had been successful.

5.3.22 Influence Scores

Subjects were asked to indicate on a 9-point scale the extent to which they agreed with the text. These scores were analysed using a 2(minority v majority influence) x 2(public v private response) between-subjects ANOVA. It should be noted that this experiment was different from experiment 1 as only a post influence score was taken, therefore scores directly correspond to their attitudes and do not represent change caused by the text. Mean scores are given below in Table 4.

Table 4
Mean Influence Scores as a Function of Influence
and Response Condition*

	Public	Private
Minority Influence	5.06 (2.04)	5.81 (1.79)
Majority Influence	6.37 (1.54)	5.12 (2.14)

[*numbers refer to mean scores on 9-point scale, the higher the score, the greater the agreement with the source of influence, numbers in brackets refer to standard deviations, n=16]

The ANOVA shows that there was no difference between the minority (X=4.56) and majority (X=4.25) influence conditions [F<1] nor between the public (X=4.28) or the private (X=4.53) response conditions [F<1].

However, as predicted by hypothesis 3, there was a significant interaction between the variables [$F(1,60)=14.31, P<0.04$]. The experimental means were compared using the Newman-Keuls comparison of means procedure. Although all the means are in the predicted direction, none of the means are significantly different from each other.

5.3.3 Discussion of Experiment 2

The results of experiment 2 support only hypothesis 2, although all the condition means are in the predicted direction. However, experiment 2 does show that subjects believe the experimental manipulation concerning the nature of the source of influence. We can, therefore, be confident that when informing subjects that a communication represents a view of under 10% of the population, they will perceive it as being a minority position. This experiment has revealed the inadequacy of the between-subjects method of measuring influence (that is, only taking post-test scores). The problem is that all the variance which occurs between-subjects is included within the influence scores. Therefore, to show any significant effects between conditions, the experimental manipulations must be strong enough to overcome the general variance between subjects. Although none of the means were found to be significantly different, this could be due to high between-subject variance rather than the effects of the experimental manipulations.

Having noted the problem concerning the between-subjects technique of measuring influence, the remaining experiments in this thesis will employ a within-subjects measure of influence, that is, subjects make

both pre-test and post-test scores and influence is taken as the difference between these scores. Since influence scores represent the difference between pre- and post-test, between-subjects variance is removed (or at least controlled). However, it is important to show that the differences between pre- and post-test scores represent influence and not anything else, for example, changes over time. To test this, control conditions can be used where subjects make pre- and post-test scores without receiving a communication to see if there are any changes over time.

Many subjects in experiment 2 reported difficulty in understanding the text as it was ambiguous (a similar comment was made by subjects in experiment 1 who also had the same text). This could be due to the fact that the questionnaire and text was developed in Switzerland and therefore there may be problems in its use because (a) the topic of pollution may not be as salient in the minds of British people as it is for the Swiss (b) the questionnaire and the text has lost some of its meaning in translation (c) there is a cultural difference between the two countries which affects individuals' susceptibility to social influence processes. Due to these problems, the topic of pollution has not been used in the remaining experiments of this thesis.

The hypotheses relevant to experiment 3 will not be outlined at this point because it was a pilot study which was associated with many problems. However, the problems associated with this experiment formed an important basis from which the main paradigm of this thesis was developed.

5.4. Experiment 3

5.4.1 Method

5.4.11 Subjects and Design

The subjects were 92 male and female pupils from a secondary school in Milton Keynes. All the subjects were in their fourth year and aged 14-15 years. 14 subjects were excluded because they were unavailable for the second part of the experiment. The final subject number was reduced to 72 (34 males and 38 females) in order to obtain a balanced design by randomly omitting 6 subjects. The experiment was a 3(ingroup v outgroup v control minority) x 2(public v private response) completely between-subjects design with 12 subjects per condition.

5.4.12 Procedure

The experiment consisted of two stages with approximately one week between the stages.

Stage 1: Subjects were informed that the experimenters were interested in people's attitudes towards capital punishment and that their responses would be treated in confidence (see Appendix C). The first stage consisted of two tasks. In the first task subjects were asked to rate the extent they believed a typical comprehensive school (CS) and a typical public school (PS) pupil possess three personality characteristics; friendly, tolerant and mature. Each personality

dimension was to be scored on two 7-point scales one each for CS and PS. In the second task subjects were required to complete a 4-item questionnaire concerning capital punishment. They were required to indicate the extent they agreed or disagreed with four statements concerning capital punishment. Two of these statements were in favour of capital punishment ("If an individual commits murder they do not deserve to live themselves" and "Capital punishment would provide suitable revenge for the murdered victims' family") while two were against capital punishment ("The idea that society can take someone's life even in the name of justice is as barbaric as murder itself" and "Capital punishment is not a succesful deterrent for crime").

Stage 2: This stage took place about one week after stage 1. Subjects were asked to read four passages which had been allegedly obtained from a previous survey. The passages portrayed a position which was totally in favour of capital punishment and was attributed to be held by under 10% of those surveyed (see Appendix D). The categorization variable was manipulated by telling subjects that the passages were obtained from; CS pupils (ingroup), PS pupils (outgroup) or pupils in general (control). In other words subjects were informed that the passages represented a position held by "under 10% of comprehensive school pupils" (ingroup minority condition), "under 10% of public school pupils" (outgroup minority condition) or "under 10% of pupils in general" (control minority condition).

After reading the passages the response manipulation was employed. In the 'public response condition' subjects were informed that, as a continuing part of the research, groups consisting of both CS and PS pupils would discuss the topic of capital punishment. If they were asked to take part in a discussion, then the members of the group

would see each other's position concerning capital punishment. It was therefore stressed that they would be identified with their response (see Appendix Ea). In the 'private response condition' subjects were told that in order that the experimenter would not know individual pupil's answers they were required to put the final questionnaire into a sealed box. It was stressed that their responses would remain anonymous and that it would not be possible for the experimenter to identify a questionnaire with any particular individual (see Appendix Eb). In fact, since the coding pattern on each questionnaire was different it was possible to identify the authors of particular questionnaires. After reading the response information subjects again completed the four item questionnaire on capital punishment.

Finally, subjects were required to indicate on three 9-point scales the extent they believed the authors of the passages were; consistent, committed and confident in portraying their position on capital punishment.

5.4.2 Results

5.4.21 CS and PS Personality Ratings

Mean ratings for the three personality dimensions are given below in Table 5.

Table 5

Mean Ratings of Personality of CS and PS Pupils*

	Friendly	Tolerant	Mature
CS	5.27	4.95	4.73
PS	4.40	4.45	4.80
t	4.66	2.65	0.19
P<	0.001	0.02	n.s.

[*scores refer to mean ratings on 7-point scale, higher scores reflect greater possession of the attribute, related t-tests, d.f=71, n=12]

As can be seen from Table 5, subjects rated CS pupils to be significantly more friendly and tolerant than PS pupils while there was no difference on maturity. This clearly shows that subjects tended to favour their own group compared to PS pupils.

5.4.22 Influence Scores

Influence scores are calculated as the difference between pre-test and post-test scores on the four item questionnaire on capital punishment. Mean influence scores are given below in Table 6.

Table 6

Mean Influence Scores as a Function of Minority
and Response Condition*

	Public	Private
Control Minority	0.21	0.31
Ingroup Minority	0.19	0.13
Outgroup Minority	0.15	0.23

[*scores represent mean differences on 9-point scale on four items between pre- and post-test, higher the score the greater the change in the direction of the source of influence, n=12]

The influence scores were subjected to a 3(control v ingroup v outgroup minority) x 2(public v private response) x 4(individual statements) ANOVA with the first two factors being between-subjects while the last being within-subjects. The ANOVA showed that there was not a main effect for minority, response or statement variables (all $F < 1$) nor any two-way interactions. The only significant finding was the three-way interaction [$F(6, 198) = 2.47, P < 0.025$]. However, inspection of the means does not provide a clear understanding of this effect.

From looking at the data it was noticed that while subjects were influenced in the direction of the source of influence some subjects changed in the opposite direction (that is, negative influence scores). The effect of this is that the final influence scores appear very small when in fact, there ^{were} large changes in subjects attitudes.

To examine this, subjects scores were analysed irrespective of whether they had changed in the direction of the source of influence, that is, their absolute change score. Mean absolute change scores are given in Table 7 below.

Table 7
Mean Absolute Change Scores as a Function of Minority
and Response Condition*

	Public	Private
Control Minority	1.42	1.42
Ingroup Minority	1.94	1.38
Outgroup Minority	1.15	1.69

[*scores represent mean absolute change on 9-point scales across 4 items, higher the score the greater the change, n=12]

The mean absolute change scores were subjected to a 3(control v ingroup v outgroup minority) x 2(public v private response) x 4(statements) ANOVA. While there was no main effect for any of the three main variables there was a significant two-way interaction between the minority and response variables [$F(2,66)=2.66, P<0.07$]. Finally the three-way interaction was not significant [$F(6,198)=1.38$]. None of the means in the minority/response interaction were found to be significantly different using the Newman-Keuls comparison of means procedure, although the means in the ingroup and outgroup minority conditions are in the predicted direction.

5.4.23 Image of the Source of Influence Ratings

Subjects rated on 9-point scales how consistent, committed and confident they believed the source of influence to be. Each of these ratings was subjected to a 3(control v ingroup v outgroup minority) x 2(public v private response) completely between-subjects ANOVA. There was no main effect on any of the dimensions for the response variable nor an interaction between the two main variables. Therefore the data was collapsed into the three minority conditions and the means are given below in Table 8.

Table 8
Mean Ratings of the Image of the Source of Influence
as a Function of Minority Condition*

	Consistent	Committed	Confident
Control Minority	7.25	7.42	7.91
Ingroup Minority	7.55	7.59	7.5
Outgroup Minority	7.35	7.2	7.28
F	2.65	2.57	2.84
P<	0.08	0.08	0.07

[*scores represent means on 9-point scales, higher the score the greater the possession of the attribute, n=24]

The means were examined using the Newman-Keuls comparison of means procedure. There was no significant difference between any of the

conditions for any of the dimensions. However, looking at the means it can be seen that ingroup minorities tended to be rated higher than outgroup minorities on all the dimensions.

5.4.3 Discussion of Experiment 3

A number of problems from experiment 3 can be noted which were important in developing the main paradigm of the thesis.

(a) It is possible that the topic of capital punishment was not important to school children and therefore hearing opinions from other pupils did not interest them. To avoid this in future experiments, a topic will be employed which is of direct relevance to the pupils.

(b) Although CS pupils discriminated against PS pupils on the personality dimensions, there is no evidence that this discrimination occurs in real life and is not an artifact of the experimental procedure. It could be argued that individuals will discriminate against any group if they are asked to compare it with their own group. To overcome this problem, an attempt will be made to employ groups which actively discriminate against each other in real life.

(c) Another problem associated with the CS-PS dimension concerns the status differential between the groups. Typically, PS pupils are perceived as having a higher status than CS pupils which may have affected CS pupil's interpretation of the PS pupils views. Although outgroup membership is usually associated with lower status, in this experiment the outgroup may have had a higher status than that of the subject's own group.

(d) It can be recalled that subjects were informed that the position in the text was held by under 10% of CS pupils (ingroup), PS pupils (outgroup) or all pupils (control). These instructions are misleading as they imply that a minority of the ingroup or outgroup held the deviant position which is not the same as an ingroup or outgroup minority. The latter would be represented by the instructions that the position in the text was held by under 10% of people surveyed and that these consisted of either ingroup or outgroup members.

(e) The experiment obtained measures of influence from questionnaires which are not, theoretically, suitable for parametric statistics (such as, ANOVA) because the data is only nominal (that is, unequal differences between the points on the scale). This was also true for experiments 1 and 2. To avoid this in future experiments, influence scores will be obtained from measures which yield data which is at least interval in nature (that is, has equal differences between points on the scale).

The failure of this experiment has been, in part, due to the reasons given above. These points have been taken into consideration when developing the main paradigm of the thesis which is explained at the beginning of the next chapter.

5.5 Discussion of Chapter 5

The three experiments described in this chapter were exploratory in nature but nevertheless have provided some useful insights. Referring to the hypotheses stated in section 5.1, there has been evidence to

support hypothesis 1 (experiment 1) and hypothesis 3 (experiments 1 and 2). The lack of support for hypothesis 2 may be because the post-test scores were measured soon after subjects had read the text. In fact, Moscovici et al. (1981) who developed the research design, found a similar pattern of results with immediate post-test measures but found the expected pattern when there was a delay of three weeks between reading the text and post-test measurement. There was also evidence in this chapter that minorities are perceived as more confident and rigid than majorities (experiment 1). These results taken together offer some support for the idea that minority and majority influence have different effects on different levels of influence.

Although the results of experiment 3 were disappointing, it provided a basis for the main paradigm of the thesis. This paradigm is discussed at the beginning of the next chapter which also contains two experiments concerning the effects of social categorization upon minority influence.

CHAPTER 6

6.1 Introduction to Chapter 6

The aim of this chapter is to discuss two experiments which have examined the relationship between minority influence and social categorization using sex as the categorization dimension. Since these experiments use a similar categorization as first employed by Maass et al. (1982) the terminology of single/double minority will be employed. It should be noted that single/double minority should be taken as analogous to ingroup/outgroup minority. The first hypothesis to be tested is a general hypothesis that single minorities should have more influence than double minorities (hypothesis 4). Confirmation of this hypothesis would be consistent with previous research in this area. The second hypothesis has been developed to test a methodological problem noted in the Maass et al. experiment discussed in section 4.4. In their experiment male subjects either were exposed to a male minority (single) or a female minority (double) influence attempt. The problem with this experiment was that the greater influencing ability of the single minority, as compared to the double minority, cannot be established due to the single minority being part of the ingroup or because it was composed of males. An alternative explanation for their results may reside in a 'male superiority effect'. However, in terms of social identification, one would expect single minorities to have more influence than double minorities

regardless of the sex of the minority (hypothesis 5).

Since all the remaining experiments in this thesis have used the same research design, a general outline will be given here while individual variations will be described in each experimental report. This design will be referred to as the "sixth-form grant" design. The problems associated with the experiments reported in chapter 5 and summarized in the discussion section were taken into consideration when planning the subsequent experiments.

6.2 The Sixth-form Grant Research Design

6.2.1 Subjects

The subjects in these experiments were male and female pupils from Comprehensive Schools in the Swindon area. They ranged in ages from 13 to 16, most subjects were in their fourth year. The reason for using school children was two-fold; firstly, it gave access to a large subject population and, secondly, it allowed easy construction of an influence topic which was of relevance to them.

6.2.11 Subject Recruitment

Since the experiments involved investigations into social influence processes great care was taken when conducting the experiments.

Typically a school representative was approached by the author (usually the headmaster) and the experimental rationale explained.

Also a copy of all the experimental materials were made available to

the school. If the school agreed to take part in the experiment it was stressed that the subjects' responses would be treated in strict confidence and that no data for individual pupils would be made available to the school. Later, the school was informed whether the general hypotheses had been supported.

Having noted the problem the author discovered in running experiment 3 (see section 5.4.3), it was decided that the experiments should be run by the class tutor. It should be noted that the teacher was not required to give any experimental instructions for these were contained in the experimental material. There were two advantages in using the class tutor; firstly, the experiment would be conducted by someone the pupils were familiar with and secondly, it enabled large scale testing.

The experimental materials took the form of booklets which were placed into a folder, one folder for each class. The teacher was simply asked to give each subject a booklet and collect them when they had been completed. He/she was also asked to give pupils the opportunity to withdraw from the experiment if they so wished. The front page of the booklet in all experiments asked the subjects to give their name and sex. Also there was the following introduction:

"Dear Pupil,

I am conducting research into young people's attitudes from schools in the Swindon area. The research consists of two stages. The first stage is contained in this booklet, the second stage will be given to you in a couple of weeks' time. I would like to assure you that what

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you write in this booklet will be treated in confidence and will not be made available to the school. I am asking for your name merely so that I can match your answers to this stage with those of the second stage. If you do not wish to take part, either inform the teacher or hand back an empty booklet.

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Please read the instructions for each question carefully.

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Thank-you for taking part,

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Robin Martin (Open University)"

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6.2.2 Influence Topic

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It was decided to use a topic which was of relevance to the subject population and the topic chosen concerned the establishment of a sixth-form grant. To appreciate the relevance of this topic to pupils one needs to understand the British educational system.

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6.2.21 The British Educational System

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Within the British educational system pupils may leave school at the age of 16 if they wish. At the age of 16 they may enter full-time employment or they may register for social security (a state benefit for those people who have no means to support themselves). However, pupils may remain in school beyond the age of 16 normally up until 18 to take further qualifications. It is the years between 16 and 18

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which are referred to as the sixth-form as pupils will have already spent five years at the school prior to this. There is a growing trend in the educational system to create establishments specifically designed to cater for sixth-formers. These "sixth-form colleges" represent the middle position between pre-sixth-form and University in their style and attitude towards education. For example, no school uniform is required at sixth-form colleges and tutors usually use the lecture/seminar format employed at university rather than the formal classes found in schools.

In summary, there is a great feeling that pupils who stay to the sixth-form are young adults who are actively choosing to remain in education and should be treated differently from younger pupils for whom education is compulsory (that is, the first five years in secondary schools).

It is worth noting that, at the age when pupils can decide to enter the sixth-form (that is, 16), their first claims to autonomy are also granted. Although their parents have responsibility over them, they can lawfully engage in sex, get married, sign legal documents and at the age of 17 they can drive a car. However, those individuals who enter the sixth-form are financially dependent upon their parents and receive no money from the state. Unfortunately some pupils are unable to go into the sixth-form as their parents are not prepared to support them.

Since pupils at the age of 16 acquire a certain amount of autonomy there is growing dissatisfaction with the fact that they are financially dependent upon their parents. Such a dissatisfaction is aggravated by the fact that young people of the same age as

sixth-formers can claim social security for being unemployed when sixth-formers get no assistance for staying on in full-time education. Recently there has been much debate about the introduction of a sixth-form grant to all those people who remain in full-time education beyond the age of 16. From this brief summary of the British educational system it is clear that the topic of a sixth-form grant is relevant to British pupils.

6.2.3 Experimental Design

All the experiments used a pre-test/post-test design, that is, subjects attitudes towards a sixth-form grant were measured before and after reading a communication (the text). Differences between the pre-test and the post-test were attributed as being caused by the text. All the experiments employed a between-subjects design which meant that different subjects were employed in each experimental condition (similar to experiment 2). Finally there was usually an interval of approximately two weeks between pre-test and post-test.

6.2.31 Attitude Measurement

Subjects were asked to indicate whether or not they believed sixth-formers should receive a grant. If they did, they were asked to indicate how much they thought they should receive in pounds per week. The experimental instructions are given in full in Appendix F.

6.2.311 The Text

Initial research showed that most pupils believed that the sixth-form grant should be about #15 to #20 per week. A communication was constructed which argued that the grant should be higher than this and so represented a minority position since few people were as extreme as this. Since the text was favourable to a sixth-form grant, it was in accord with the 'Zeitgeist' that is, prevailing views.

The text consisted of four passages each of which was contained within quotation marks to give the impression that they were four separate quotes (see Appendix G). The first passage argued that sixth-formers should not be dependent upon their parents and indicated how much money the grant should be. The second passage compared a sixth-former with an apprentice and argued that while the latter receives a wage, the former does not. The third passage argued that a grant of between #15 to #20 or #21 to #25 (according to pre-test, see below) was insufficient to meet the expenses of a sixth-former. Finally the fourth passage compared sixth-formers with university students and noted that the latter get state grants but the former do not.

6.2.32 Controlling the Target - Source Difference

As noted earlier, research into social influence has generally not controlled the difference between the target and the source of influence's attitudes. Some attempt was made in these experiments to achieve this. Subjects' pre-test responses generally fell into two categories, either a belief that the sixth-form grant should be #15 to #20 or #21 to #25. It was decided that the text would argue for a

grant #15 more than the maximum of the response category subjects fell into. That is, those subjects who's pre-test score was between #15 to #20 had a text advocating a grant of #35 whilst those subjects advocating a grant of between #21 to #25 received a text arguing for a grant of #40 (note that the text was exactly the same in every other aspect). The effect of this was that all subjects read a text which argued for a grant which was at least #15 more than their pre-test response.

6.2.4 Debriefing

The amount and type of debriefing varied across schools and the type of experiment. Each school was given the opportunity of having two detailed debriefing sessions, one for the staff and the other for the pupils. Few accepted one of these invitations, none accepted both. A short note was sent to each teacher with brief details of the research and they were asked to read it out to the pupils. In the schools in which I gave a debriefing talk to the pupils I was satisfied that the experiment had not harmed the pupils. It must be noted that whereas there was only mild interest in the research from the staff, there was almost total apathy from the pupils.

It should also be recorded that some of the pupils decided not to take part in the research and details of this ^{are} given for each experiment. Finally, a donation of #50 (from the author's research budget) was given to the school fund of each school who participated in the research as a sign of gratitude.

6.3 Experiment 4

6.3.1 Method

6.3.11 Subjects and Design

The subjects were 78 male and female pupils from a comprehensive school in Swindon. All the subjects were in their fourth year and were aged between 14 to 15 years. The subject number was reduced to 67 (6 were unavailable for the second stage, 5 did not believe in a sixth-form grant). 7 subjects were randomly omitted in order to obtain a balanced design.

The experiment was a 2(male v female subjects) x 2(single v double minority) completely between-subjects design with subjects being randomly allocated to one of four experimental conditions. The experiment employed the sixth-form grant research design and there were 15 subjects per condition.

6.3.12 Procedure

The experiment took place in two stages with approximately 2 weeks interval between the stages.

Stage 1: Subjects were asked to indicate how much grant sixth-formers should receive per week (pre-test). They were also asked to indicate how confident they were of their response on a 7-point scale.

Stage 2: This took place about two weeks after stage 1 and consisted

of two parts. In the first part subjects were asked to read a communication which advocated a position more extreme than their own (the sixth-form grant text, see Appendix G). This was either attributed as being held by "under 10% of male pupils" (for male subjects a single minority while for female subjects a double minority) or by "under 10% of female subjects" (for male subjects a double minority and for female subjects a single minority). In other words, male and female subjects received either a single or a double minority. After reading the text they were asked to indicate, again, the amount of grant they believed sixth-formers should receive (post-test) and to indicate how confident they were of their response on a 7-point scale.

In the second part subjects were required to rate the extent to which the source of influence was consistent, committed and persuasive. They were also asked to what extent "..... it is likely that the authors (of the passages) would believe in a position different to the majority on another topic" (this is referred to as the generalisation rating). All ratings were on 9-point scales.

6.3.2 Results

6.3.21 Influence Scores

The influence scores were calculated as the difference between pre-test and post-test scores. Preliminary analyses showed that the influence scores were not affected by whether subjects had indicated that they intended to enter the sixth-form or not nor did this factor interact with the dependent variables (all $F < 1$). Therefore influence

scores were subjected to a 2(male v female subject) x 2(single v double minority) completely between-subjects ANOVA. Mean influence for each experimental condition is shown below in Table 9.

Table 9

Mean Influence as a Function of Sex of the Subject and Minority

Condition*

	Single	Double
	Minority	Minority
Male Subjects	5.13 (4.00)	1.10 (3.26)
Female Subjects	7.47 (4.48)	2.06 (3.84)

[*scores represent differences between pre-test and post-test, in pounds, with positive scores indicating influence in the direction of the source of influence, numbers in brackets refer to standard deviations, n=15]

The ANOVA reveals that there was no difference between the Male (X=3.12) and Female (X=4.77) responses [$F(1,56)=2.627, n.s.$]. However, as predicted by hypothesis 4, single minorities (X=6.3) had significantly more influence than double minorities (X=1.58) [$F(1,56)=21.468, P<0.0001$]. Also there was not a significant interaction between the variables ($F<1$).

The experimental conditions were examined using the Newman-Keuls comparison of means procedure. As expected there was no difference between male and female subjects for single and double minorities. Also, hypothesis 5, that single minorities would have more influence than double minorities was supported for both male ($P < 0.01$) and female ($P < 0.05$) subjects.

6.3.22 Number of Subjects Influenced

A further test of hypothesis 4 was achieved by applying a chi-squared analysis on the number of subjects who had been influenced in the direction of the source of influence. The number of individuals who were influenced in the direction of the source of influence for each condition is given below in Table 10.

Table 10

Number of Individuals Influenced in the Direction of the Source
Influences as a Function of Sex of Subject and Minority

Condition*

	Single	Double
	Minority	Minority
Male Subjects	11	6
Female Subjects	14	4

[*number of individuals influenced in the direction of the source of influence $n=15$]

The results of the chi-squared showed that there was no difference between males and females ($X^2=0.06, d.f.=1$) but that more subjects in the single minority conditions had moved towards the source of influence than in the double minority conditions ($X^2=13.44, d.f.=1, P<0.001$) thus supporting hypothesis 4. The results of the chi-squares support the results of the influence scores.

6.3.3 Ratings of Confidence

Subjects rated how confident they were of their pre-test and their post-test responses on a 7-point scale. Mean ratings are given below in Table 11.

Table 11
Mean Ratings of Confidence as a Function of Sex of the Subject
and Minority Condition*

	Male		Female	
	SM	DM	SM	DM
Pre-Test	5.87	5.87	5.47	5.4
Post-Test	6.07	5.94	5.27	5.6

[*numbers refer to ratings on a seven point scale, higher the number the higher the perceived confidence in the response, SM=single Minority, DM=double minority]

A number of related t-tests revealed that there was no difference

between any pre-test and post-test ratings. This could be due to a ceiling effect caused by the high pre-test scores ($X=5.66$) resulting in little room for movement.

6.3.4 Image of The Source Rating

The subjects rated the source of influence on four dimensions using 9 point scales. Each dimension was examined using four 2(male v female subject) x 2(single v double minority) ANOVA. There was no difference on any of the ANOVA's for sex of subject (all F values less than 1). Therefore single and double minority conditions were collapsed over the sex variable and mean ratings are given below in Table 12.

Table 12
Mean Ratings of the Image of the Source of Influence as a
Function of Minority Condition*

	Consistency	Committed	Persuasive	Generalization
SM	7.53	7.1	7.07	6.3
DM	6.53	7.34	6.87	6.6
F	11.31	0.627	0.561	0.633
P<	0.001	n.s.	n.s.	n.s.

[*scores refer to means on 9-point scale, the higher the score the greater the possession of that attribute, n=15]

From Table 12 it can be seen that the only significant difference

concerns the consistency rating where single minorities were rated as more consistent than double minorities

An alternative hypothesis which could be proposed is that male minorities are rated more positively than female minorities. Note that there is a difference between sex of the subject and sex of the minority in this experiment. Table 13 below demonstrates this difference.

Table 13
Relationship Between Sex of Subject and Sex of Minority

	Single Minority	Double Minority
Male Subjects	Male Minority	Female Minority
Female Subjects	Female Minority	Male Minority

The hypothesis that male minorities might be rated more positively than female minorities would be supported by an interaction between the sex of subject and the minority condition variables. There was no significant interactions with consistent and committed ratings (F values less than 1) however, the interactions on the persuasive and generalization ratings was sufficiently significant to warrant further investigation [persuasion $F(1,56)=5.05, P<0.03$; generalization

$F(1,56)=2.82, P<0.1]$. Mean ratings for sex of minority are given below in table 14 (note that 'male minority' consists of the male subject/single minority condition and female subject/double minority condition while 'female minority' consists of male subject/double minority and female subject/single minority conditions).

Table 14

Mean Ratings of Image of Source of Influence as a Function of Sex
of the Minority*

	Consistency	Committed	Persuasive	Generalization
Male Minority	7.14	7.3	7.27	6.77
Female Minority	7.0	7.14	6.67	6.14
t	0.42	0.57	2.31	1.7
P<	n.s.	n.s.	0.05	0.1

[* scores refer to means on 9-point scale, the higher the score the greater the possession of that attribute, $n=15$]

From the above table it can be seen that the only significant difference concerned the persuasive dimension with male minorities being rated as more persuasive than female minorities. This could be taken as supportive of the male superiority explanation of Maass et al.'s experiment . However, subsequent analyses did not show a significant correlation between persuasion rating and influence.

6.3.5 Discussion of Experiment 4

The results of experiment 4 support the hypotheses stated in the introduction. Single minorities caused greater attitude change than double minorities (hypothesis 4) regardless of the sex of the minority which does not support the male superiority explanation (hypothesis 5). Another important finding was that there was no difference in the extent male and female subjects were influenced. This debunks the much held popular belief that females are more susceptible to being influenced than are males.

Due to the confounding of the sex of the subject and sex of the minority, analysis of the image of the source data was problematic. The results did not show a clear pattern although single minorities were rated as being more consistent than double minorities. Although male minorities were rated as more persuasive than female minorities, there was no relationship between the 'persuasive rating' and influence.

The next experiment is a partial replication of this experiment, that is, male and female subjects receive either a same sex minority (single) or an opposite sex minority (double) communication. There are three main differences between experiment 5 and this one. First; a "control Minority" is included where the sex of the minority is not disclosed so that it will be possible to examine the effect of categorizing a minority. Second, there was a male and female condition. Third, due to the problems with the source of influence ratings, a new technique was developed.

6.4 Experiment 5

6.4.1 Method

6.4.11 Subjects and Design

The subjects were 127 male and female pupils from a comprehensive school in Swindon. All the subjects were in the fourth year and aged between fourteen and fifteen years. The subject number was reduced to 108 (10 were unavailable for the second stage, 9 did not believe in a sixth-form grant). 12 subjects were randomly omitted in order to obtain a balanced design.

The experiment was a 4(control minority v single minority v double minority v control) x 2(male v female subjects) completely between-subjects design with subjects being randomly allocated to one of four experimental and two control conditions. There were 12 subjects per condition. The experiment employed the sixth-form grant paradigm.

6.4.12 Procedure

The experiment took place in two stages with approximately three weeks interval between the stages. The procedure was the same as for experiment 4 except:

- (a) no rating of confidence was taken.
- (b) a control minority condition was included which did not make any

reference to males or females, that is, the text was attributed to "under 10% of pupils".

(c) a control condition was included where subjects made judgements about the sixth-form grant without reading the text.

(d) the measures of behavioural styles were replaced by a measure designed to determine how subjects perceived themselves compared to the outgroup. Subjects were asked to rate on four dimensions themselves, a typical member of the ingroup and a typical member of the outgroup. The ingroup and the outgroup were dependent upon the sex of the subject, for example, a male subject would rate himself (male), a typical member of the ingroup (male) and a typical member of the outgroup (female). The dimensions were; trusting-suspicious, courageous-cowardly, moral-immoral and selfish-generous. Each dimension was accompanied by three 7-point scales, one each for self, ingroup and outgroup.

6.4.2 Results

6.4.21 Influence Scores

The influence scores were calculated as the difference between the pre-test and post-test scores. Preliminary analyses showed that the influence scores were not affected by whether subjects intended to enter the sixth-form nor did this factor significantly interact with the dependent variables. Therefore influence scores were subjected to a 4(control minority v single minority v double minority v control) x 2(male v female subjects) completely between-subjects ANOVA. Means

for the influence scores are given below in Table 15.

Table 15
Mean Influence Scores as a Function of Minority and Sex of Subject

	<u>Conditions</u>	
	Male	Female
Control Minority	8.2 (2.9)	6.6 (1.97)
Single Minority	5.87 (5.13)	5.04 (4.63)
Double Minority	0.87 (3.87)	0.33 (3.66)
Control	0.16 (5.3)	0.62 (3.43)

[*scores represent differences between pre-test and post-test in pounds, positive scores represent change in the direction of the source of influence, numbers in brackets refer to standard deviations, n=12]

The results of the ANOVA showed that there was no difference between sex of the subject [$F < 1$] nor was there a significant interaction [$F < 1$]. Therefore the scores were collapsed across the sex variable. However, there was a highly significant difference between the minority conditions.

The experimental means were compared using the Newman-Keuls comparison of means procedure. This showed that single minorities had more influence than double minorities ($P < 0.01$) which supports hypothesis 4. Also, hypothesis 5 was supported as the effect of single minorities having more influence than double minorities was found for both male and female subjects. From these results it can be concluded that the effects found in experiment 4 have been replicated. Although the difference between the single minority and the control minority was in the predicted direction, the difference was not significant. Finally, whereas the control minority and single minority had significantly more influence than the control, there was no difference between the control and the double minority conditions.

6.4.22 Number of Subjects Influenced

The number of subjects who moved in the direction of the source of influence was examined using a number of chi-squared analyses. The number of subjects who were influenced in the direction of the source of influence is shown below in Table 16.

Table 16

Number of Subjects Influenced in the Direction of the Source of
Influence*

	Male	Female
Control Minority	12	12
Single Minority	10	8
Double Minority	5	5
Control	5	4

[*number of subjects influenced in the direction of the source of
influence, n=12]

The analyses reveal that there was no difference between male and female subjects ($\chi^2=0.18$). However, there was a significant difference between the source of influence conditions ($\chi^2=27.1, d.f.=3, P<0.001$) showing that more subjects were influenced in the single and control minority conditions than in the double minority and control conditions. The analysis of the number of subjects who moved in the direction of the source of influence parallel those found for the influence scores.

6.4.3 Image of the Source Ratings

Subjects were required to rate themselves (self rating), a typical member of their own sex (ingroup) and a typical member of their opposite sex (outgroup) on four dimensions; trusting (TR), Courageous (COUR), Moral (MOR) and Generous (GEN). For each comparison dimension there were three 7-point scales one each for the self, ingroup and

outgroup ratings. In other words subjects were asked to compare themselves with their ingroup and outgroup.

The rating scores for each comparison dimension was subjected to a 3(self v ingroup v outgroup) x 4(control minority v single minority v outgroup minority v double minority v control) x 2(male v female subject) MANOVA with the first factor being within-subjects variable and the second and third factors being between-subjects variables. Table 17 below contains a summary of the findings of these MANOVA's.

Table 17

Summary of Results of MANOVA's for each Comparison Dimension*

		df		TR		COUR		MOR		GEN	
		F	P<	F	P<	F	P<	F	P<	F	P<
<u>Between-Subjects Factors</u>											
C	3	<1	n.s.	<1	n.s.	1.61	n.s.	<1	n.s.		
S	1	<1	n.s.	4.42	0.04	<1	n.s.	2.12	n.s.		
CxS	3	<1	n.s.	3.51	0.02	1.44	n.s.	3.76	0.02		
<u>Within-Subjects Factors</u>											
R	2	17.9	0.001	5.22	0.006	32.7	0.001	31.1	0.001		
CxR	6	1.05	n.s.	2.6	0.02	3.53	0.003	<1	n.s.		
SxR	2	8.93	0.001	42.3	0.001	3.86	0.02	13.99	0.001		
CSR	6	3.42	0.003	1.33	n.s.	5.29	0.001	3.53	0.003		

[*C=minority categorization, S=sex, R=ratings and df=degrees of freedom]

From Table 17 it can be seen that there were very few significant main effects for the between-subjects factors (that is, the categorization and sex of subject variables). Only two out of the eight main effects and two out of the four 2-way interactions were significant.

Furthermore, these effects were not in any systematic direction. On the other hand, there was a highly significant main effect for the within-subjects factor (that is, ratings) on all four comparison dimensions. Also, two out of the four 2-way interactions of CxR were significant as were all the 2-way interactions of the SxR interactions. Finally, three out of the four 3-way interactions (CxSxR) were significant.

The finding that the SxR interaction is ^{significant is} probably due to the fact that there was a confounding of the sex of the subject and the sex of the minority in the experimental design. This most probably accounts for the significant 3-way interactions. A similar effect was observed in experiment 4 (see section 6.3.4). For subjects in the single and double minority conditions, male subjects either received a minority composed of males (single minority) or females (double minority) while female subjects either received a minority composed of male subjects (double minority) or females (single minority). Because of the above problem and due to the reasons below the rating scores were collapsed across the sex of subject variable:

(a) The pattern of influence scores for male and female subjects did not differ in this experiment (the same was true for experiment 4).

(b) If the rating data is rearranged, as in experiment 4, the main findings are similar. Such a rearrangement would provide only a

* in the ingroup and outgroup minority conditions the sex of the minority differed for each sex of subject, e.g. an outgroup minority for male subjects was composed of females while for female subjects was composed of males,

partial analysis of the experimental data as the confounding of the sex of the subject and the sex of the minority occurs in the single and double minority conditions and not the control minority and the control conditions.

(c) No systematic effects were observed in experiment 4 for the sex of the minority on perceived behavioural styles (in other words, both male and female minorities are perceived similarly).

(d) Comparisons across sex of subject, although interesting within their own right, are not of theoretical value to the aims of this thesis.

Table 18 below contains the mean ratings of Self, Ingroup and Outgroup across sex of subject and minority condition, for each of the comparison dimensions.

Table 18
Mean Ratings of Self, Ingroup and Outgroup as a Function of
Comparison Dimension*

	TR	COUR	MOR	GEN
S	4.99	4.84	4.96	4.86
I	4.56	4.71	4.73	4.55
O	4.23	4.43	4.25	3.97
N-K				
SxI P<	0.01	n.s.	0.05	0.01
IxO P<	0.01	0.05	0.01	0.01
SxO P<	0.01	0.01	0.01	0.01

[*S=self, I=ingroup, O=outgroup, N-K=Newman-Keuls, mean ratings on a 7-point scale, the higher the rating the greater the possession of the dimension, n=96]

From Table 18 it can be seen that there was a similar pattern of results for each of the comparison dimensions, that is, subjects rated themselves higher than the ingroup and the ingroup higher than the outgroup. A Newman-Keuls comparison of means procedure was performed for each comparison procedure showing that, with one exception, all the comparisons for each dimension were significantly different. Although an ingroup > outgroup difference is predicted (especially with such a potent intergroup categorization as sex) the fact that subjects rated themselves higher than their ingroup is perhaps surprising.

The summary of the MANOVA results in Table 17 shows that there were significant 2-way interaction between CxR for two out of the four comparison dimensions. Since the categorization effects are the particular focus of interest in this thesis, some attention will be paid to this data. Mean ratings of self, Ingroup and outgroup across minority conditions is shown below in Table 19.

Table 19

Mean Ratings of Self, Ingroup and Outgroup as a Function of
Minority Condition for each Comparison Dimension*

	CM	SM	DM	CON	F	P
S	4.88	4.9	4.97	4.88	0.09	n.s.
I	4.63	4.68	4.62	4.62	0.05	n.s.
O	4.33	4.00	3.96	4.6	3.73	0.01

[* One-way ANOVA across minority conditions, S=self, I=ingroup, O=outgroup, means are ratings on 7-point scale, the higher the rating the greater the possession of the attribute, n=24]

From the above table it can be seen the minority variable had no effect on how subjects rated themselves or the ingroup. However, this was not true for the outgroup ratings. In this situation, subjects rated the outgroup significantly lower when exposed to a single or double minority than when to a control minority or in the control condition. It appears that confronting a single or double minority devalues the perception of the outgroup, perhaps by making the intergroup relations salient. Such an interpretation is supported by the fact that the outgroup was devalued to such an extent for subjects in the control minority and control conditions where no reference is made to the intergroup context.

6.4.4 Discussion of Experiment 5

The results of experiment 5 have replicated those found for experiment

4, namely, ingroup minorities had more influence than outgroup minorities (hypothesis 4) and that this was true regardless of the sex of the subject (hypothesis 5). Whereas control minorities tended to have more influence than single minorities, this difference was not significant. However, contrary to expectations, there was no difference between the double minority and the control condition. It appears that attributing the text to an outgroup had the same effect as not receiving the communication.

The results from the image of the source ratings are very interesting. A surprise finding was that individuals tended to rate themselves as significantly more desirable than the ingroup while, as expected, the ingroup were rated more favourably than the outgroup. This finding may be due to the fact that while people desire to belong to a group they often want to be considered to be unique individuals and therefore not 'typical' group members.

When examining the effect of the experimental conditions on the ratings an interesting finding emerged. Whilst there was no difference between the conditions on the self and ingroup ratings, there was a significant difference on the outgroup ratings. In this situation, the outgroup was rated less positively when subjects had been exposed to a single or double minority then when exposed to a control minority or had been in the control condition. This shows that making the intergroup situation salient (as did the single and double minority) leads to discrimination against the outgroup (note that the intergroup context is not made salient for the other two conditions).

6.5 Discussion of Chapter 6

The experiments discussed in this chapter confirm the two hypotheses stated in the introduction (see section 6.1). Single minorities had more influence than double minorities (experiments 4 and 5) which replicates the previous research in this area. Also, the greater influencing power of single minorities compared to outgroup minorities was found for both male and female subjects (experiments 4 and 5) which does not support the "male superiority explanation" of the Maass et al. experiment (see section 6.1). A further interesting finding was that labelling a communication as representing an outgroup position had no more influence than if they had not received the communication (a control condition). This suggests that when individuals receive a communication they totally resist change (in fact, in some cases a negative influence occurred where individuals polarized their existing attitudes away from the position advocated by the double minority).

The two experiments discussed in this chapter employed different methods to assess the image of the source of influence. Experiment 4 employed the typical method using rating scales to measure various aspects of the source of influence's behavioural style. Apart from the finding that single minorities are perceived to be more consistent than double minorities, no clear pattern of result emerged. This may have been partly due to the confounding of the sex of the subject with the sex of the minority.

In contrast to the above technique, experiment 5 used a system which was designed to compare individuals' ratings of themselves with a typical member of their ingroup and outgroup. Two important findings

emerged. First, individuals rated themselves higher (or more desirable) than the ingroup which was rated higher than the outgroup. This demonstrates that individuals discriminate against the outgroup and also desire to be differentiated from the 'typical' examples of their own group. The latter strategy may be an attempt to remain unique within their ingroup membership. Second, the outgroup was discriminated to a greater extent when the intergroup context had been made salient than when it had not.

In the next chapter, two experiments are discussed which examine the effects of social categorization upon public and private influence. This is an important issue to examine as much research into minority influence has highlighted the fact that minorities tend to have more influence in private than they do in public (see section 2.4). Also, an attempt is made, in one of the experiments, to examine social categorization based upon real groups which are known to discriminate against each other. These are termed ingroup and outgroup minorities but can be considered to be analogous to single and double minorities.

CHAPTER 7

7.1 Introduction to Chapter 7

The aim of this chapter is to present two experiments which examine the effects of social categorization upon minority influence on public and private responses. The choice of the social categorization dimension differs between the experiments. In the first experiment an attempt has been made to employ a categorization dimension which subjects actively use as a basis for discrimination. In order to achieve this, pupils were asked which schools, from their area, they would most like to beat and least like to be beaten by in a hypothetical competition. The results of this, backed up with other evidence, revealed a school which pupils considered to have outgroup status, that is a school they compare themselves with and perceived to have negative characteristics.

The second experiment discussed in this chapter is similar in design to the first experiment except that a control condition has been included where subjects gave estimates of the sixth-form grant but did not read a minority text. The social categorization dimension, in this experiment, concerned sex, that is, male and female subjects either received a same sex minority (single) or a different sex minority (double) communication. Although single/double similar to ingroup/outgroup minority, the former classification is used so as to

be consistent with the other experiments in this thesis which developed out of Maass et al.'s (1982) original conception.

A number of hypotheses can be made concerning these experiments:

Hypothesis 4 - On public responses, ingroup minorities should have more influence than outgroup minorities. This is the same hypothesis as that in chapter 6 and therefore the logic behind it will not be stated again.

Hypothesis 2 - Minority influence will be greater when responses are made in private than when made in public. This is the conversion hypothesis stated in chapter 5.

Hypothesis 6 - On private responses, outgroup minorities should have more influence than ingroup minorities. This follows from the reasoning that outgroup minorities are more distinctive, and therefore impose a greater psychological cost when agreeing with them, than do ingroup minorities. Since the level of psychological cost determines the extent of public influence, one would expect outgroup minorities nevertheless to cause greater private change than ingroup minorities because of their greater psychological distinctiveness.

Hypothesis 7 - Since the effects of social categorization predict a pattern of results for public and private influence which is in different directions, one would expect an interaction between the social categorization variable (that is, ingroup/outgroup minority) and level of influence (that is, public and private response).

Hypothesis 8 - In the control condition (that is, when subjects do not

receive a communication) there should be no difference between responses which are made in public with those made in private. This is an important hypothesis because if any differences are observed then it would imply that the response manipulation itself could be the cause of greater private influence and not any experimental manipulation.

7.2 Experiment 6

7.2.1 Method

7.2.11 Subjects and Design

The subjects were 86 fourteen and fifteen year old male and female pupils from a comprehensive school in Swindon. 14 subjects were excluded (8 because they were unavailable for the second part of the experiment and 6 because they did not believe in a sixth-form grant). The subject number was further reduced to 68 (35 male and 33 female) in order to achieve a balanced design by randomly omitting 4 subjects.

The experiment was a 2(ingroup v outgroup minority) x 2(public v private response) completely between-subjects design with 17 subjects per condition. Subjects were randomly allocated to one of four experimental conditions.

This experiment is discussed in Martin (1987a).

7.2.12 Procedure

The experiment employed the sixth-form ^{paradigm} grant discussed in chapter 6. The experiment consisted of two stages with approximately three weeks between each stage.

Stage 1 : In the first part of the booklet a measure was obtained of how much subjects believed the sixth-form grant should be (pre-test) and a measure of how confident they were of their response on a 7-point scale. The second part of the booklet was designed to reveal schools which the subjects considered to have outgroup status. To accomplish this they were asked three questions concerning the outcome of a hypothetical competition between schools in the Swindon area. The first question simply asked whether they would prefer their own school or another school to win the competition. The second question asked which school would you "most like your school to beat ?" while the third question asked which school would you "least like your school to be beaten by ?".

Stage 2 : The subjects were given a booklet which contained three parts. The first part required subjects to compare a typical pupil from their own school with a typical pupil from an outgroup school (determined from the first stage). Comparisons were made on four dimensions; Friendly/Unfriendly, Reliable/Unreliable, Mature/Immature and Good/Bad Friend. Each dimension was accompanied by two 7-point scales, one for the subjects' own school and one for their own school.

In the second part, subjects were asked to read the sixth-form grant text and informed that it represented a view held by under 10% of people. Subjects were told that these 10% of pupils either came from their own school (ingroup minority condition) or from an outgroup

school (outgroup minority condition). Before subjects were asked to indicate for the second time how much grant sixth-formers should receive (post-test), the response manipulation was employed. In the 'public response condition' subjects were told that the class would be participating in a discussion about sixth-form grants. In order that everyone would know the position taken by the other pupils, their answers would be shown to the other members of the class. It was therefore stressed that they would be identified with their response. In the 'private response condition' subjects were told that to ensure that no one would ever know their response they would put their response into an envelope and place it into a 'ballot box'. It was stressed that their response would remain anonymous and it would not be possible to identify a response with any particular individual. In fact, by employing a different system of numbering the pages of the booklet it was possible to match the responses with their authors.

In the third and final part, subjects made five ratings concerning the image of the source of influence. They indicated how consistent, committed, confident and persuasive they thought the authors of the passages were on 9-point scales. They also indicated the likelihood that the authors of the passages would hold a minority position on a different topic on a 9-point scale (the generalization measure).

7.2.2 Results

7.2.21 Outgroup School Choices

In the first stage subjects were asked three questions designed to reveal which schools they considered to have outgroup status. Every

subject responded that they would prefer their own school to win a competition rather than another school. It should be noted that there are approximately 14 secondary schools in the Swindon area and therefore subjects had a wide range to choose from. Table 20 below shows the percentage of occasions each school was chosen for the second and third question.

Table 20
Percentage of Occasions Each School was Chosen For Second and
Third Question

School	Most Like		Least Like to		Total	
	to Beat		be Beaten by			
	No.	%	No.	%	No.	%
W	34	48.5	48	70.5	82	60.2
O	4	5.8	4	5.8	8	5.8
P	5	7.35	2	2.9	7	5.1
H	8	11.7	5	7.35	13	9.5
J	9	13.2	3	4.4	12	8.8
C	4	5.8	2	2.9	6	4.4
M	1	1.4	0	0.0	1	0.7
MY	1	1.4	0	0.0	1	0.7
HW	1	1.4	2	2.9	3	2.2
D	0	0.0	1	1.4	1	0.7
K	1	1.4	1	1.4	2	1.4

It can be seen from the above table that to the question which school would you "most like to beat ?", 48.5% of subjects indicated one

particular school (codename W). There were nine other choices to this question with the next highest school receiving 13.2% of the responses. To the question which school would you "least like to be beaten by ?", school W was the most popular choice with 70.5% of subjects choosing it, the other choices were spread over eight schools with the next highest school receiving 7.35% of choices. Summarizing over the two questions, school W received 60.2% of the choices, the remaining responses covered ten other schools with the next highest school receiving 9.5% of choices.

From these results it is quite clear that school W was considered to be the school subjects compared themselves with. This was not a surprising finding as the school had been rivals with school W for many years. Hostility towards school W was easily evoked whenever the school was mentioned (furthermore abusive graffiti directed towards school W were displayed on many walls around the school).

7.2.22 Own School/Outgroup School Comparisons

In the second stage subjects made comparisons between a typical pupil from their own school and from school W (chosen from the first stage). Mean ratings are given below in Table 21.

Table 21

Mean Ratings for Own School and Outgroup School on Comparison

Dimensions*

	Friendly	Reliable	Mature	Good Friend
Own School	5.11	5.03	5.15	5.28
School W	3.84	3.74	4.12	4.03
t	9.01	7.23	5.96	7.02
P<	0.001	0.001	0.001	0.001

[*scores represent means on 7-point scales, higher the score the greater the possession of the attribute, related t-tests with d.f.=66,n=68]

The results are very conclusive. On every dimension subjects rated pupils from their own school significantly more favourably than pupils from school W, that is, pupils from subjects' own school were seen as more friendly, reliable, mature and as a better friend than pupils from school W. In fact across all the dimensions, out of a possible 272 comparison (68 subjects each made 4 comparisons) in only 5 comparisons (1.83%) was school W rated more favourably than the subjects' own school.

The results from the outgroup school choices and the own school/outgroup school comparisons strongly suggests that school W was treated as having outgroup status, that is, one which subjects actively chose to compare themselves with and rated less favourably than themselves.

7.2.23 Influence Scores

Subjects indicated how much grant sixth-formers should receive before and after reading the influencing text. Differences between these two measures indicate the amount of influence caused by the text. Mean influence scores are shown below in Table 22.

Table 22
Mean Influence as a Function of Minority and Response

	<u>Condition*</u>	
	Public	Private
Ingroup Minority	4.03 (4.55)	5.58 (4.58)
Outgroup Minority	1.08 (3.28)	7.23 (5.08)

[*scores represent difference between pre-test and post-test in pounds, positive scores represent change in the direction of the source of influence, standard deviations are in brackets, n=17]

Preliminary analyses showed that the influence scores were not affected by sex of the subject nor by subjects' intentions to enter the sixth-form. Furthermore, these factors did not significantly interact with the dependent variables. Therefore a 2(ingroup v outgroup minority) x 2(public v private response) completely between-subjects ANOVA was performed on the influence scores. There

was no significant difference between ingroup ($X=4.81$) and outgroup ($X=4.16$) minorities [$F<1$]. However, there was greater change in private ($X=6.41$) than in public ($X=2.55$) responses [$F(1,64)=11.99, P<0.001$] supporting hypothesis 2. Also there was a significant interaction between the minority and response variables [$F(1,64)=4.25, P<0.04$] which supports hypothesis 7.

The condition means were examined using the Newman-Keuls comparison of means procedure. This showed that in the public response condition, hypothesis 4 was supported, that is, ingroup minorities had significantly more influence than outgroup minorities ($P<0.05$). However, hypothesis 6 was not supported as there was no difference in the private response condition. Also, in the ingroup minority condition, there was no difference between public and private responses while outgroup minorities had significantly more influence on private responses than on public responses ($P<0.01$).

7.2.24 Number of Subjects Influenced

The number of subjects who changed in the direction of the source of influence is shown below in Table 23.

Table 23

Number of Subjects Influenced as a Function of Minority and
Response Conditions*

	Public	Private
Ingroup Minority	11	14
Outgroup Minority	6	15

[*number of subjects influenced in the direction of the source of influence, n=17]

From Table 23 it can be seen that there was no difference between the number of subjects influenced in the ingroup and outgroup minority conditions ($\chi^2=0.605, d.f.=1$). However, as predicted, more subjects were influenced in the private response condition than in the public response condition ($\chi^2=8.13, d.f.=1, P<0.01$). Therefore the number of subjects influenced is compatible with the pattern of results observed with the influence scores.

7.2.25 Confidence Scores

Subjects indicated how confident they were of their pre- and post-test responses on a 7-point scale. Mean ratings are given below in Table 24.

Table 24

Mean Ratings of Confidence as a Function of Minority and Response

Condition*

	Public		Private	
	Ingroup	Outgroup	Ingroup	Outgroup
Pre	5.0	4.89	5.3	5.36
Post	5.65	5.53	5.36	5.65
t	2.864	2.09	0.17	1.09
P<	0.02	0.1	n.s.	n.s.

[*scores represent means on 7-point scales the higher the score the greater the confidence, related t-tests, d.f.=16, n=17]

As can be seen from the table, ingroup minority/public response condition showed a significant increase in confidence after reading the text. This was the only significant difference.

7.2.26 Image of the Source Ratings

Subjects rated on 9-point scales how consistent, committed, confident and persuasive they thought the source of influence to be. Mean ratings are shown below in Table 25.

Table 25

Mean Ratings of the Image of the Source of Influence as a
Function of Minority and Response Conditions*

	Con	Com	Cof	Per
PUBLIC				
Ingroup Minority	6.76	6.18	7.00	6.29
Outgroup Minority	6.00	6.41	5.82	5.76
PRIVATE				
Ingroup Minority	6.82	7.00	7.06	6.82
Outgroup Minority	6.82	7.12	6.82	6.00

[*scores represent mean ratings on 9-point scale, the higher the score the greater the possession of the attribute, n=17]

Each rating dimension was subjected to a 2(ingroup v outgroup minority) x 2(public v private response) between-subjects ANOVA. None of the ANOVA's showed a significant interaction between the minority and response variables. Table 26 below shows mean ratings for the public and private response conditions.

Table 26

Mean Ratings of Image of Source as a Function of Response

	<u>Conditions*</u>			
	Con	Com	Cof	Per
Public	6.38	6.29	6.41	6.03
Private	6.82	7.06	6.94	6.41
F(1,64)	4.23	7.36	3.32	1.05
P<	0.05	0.009	0.08	n.s.

[*scores represent mean ratings on 9-point scale, the higher the score the greater the possession of the attribute, n=34]

From the above table it can be seen that the source of influence was rated as significantly higher on the consistent, committed and confident dimensions when subjects were in the private response condition than when they were in the public response condition. This is surprising as each condition had exactly the same procedure. However, while it was made clear that only their response concerning the amount of sixth-form grant would be seen by others (public response condition) or placed into a 'ballot box' (private response condition), subjects may have believed that this was also true for the ratings. If this is true, then it is not surprising that subjects in the public response condition did not rate the minority as highly as in the private response condition since subjects would not want to agree openly with a deviant minority. Table 27 below shows mean ratings as a function of minority condition.

Table 27

Mean Ratings of the Image of the Source as a Function of

Minority Condition*

	Con	Com	Cof	Per
Ingroup Minority	6.79	6.59	7.03	6.56
Outgroup Minority	6.41	6.76	6.32	5.88
F(1,64)	3.18	0.39	5.9	3.3
P<	0.08	n.s.	0.02	0.08

[*scores represent mean ratings on 9-point scale, the higher the score the greater the possession of the attribute, n=34]

From Table 27 it can be seen that ingroup minorities were rated higher on consistent, confident and persuasive dimensions than outgroup minorities.

The results from Table 26 and Table 27 suggest that subjects rated the source of influence higher when in the private response than the public response condition and when it was an ingroup rather than an outgroup. The means for each dimension were examined using the Newman-Keuls comparison of means procedure. The results were similar across the dimensions. For the consistent, committed and confident ratings subjects in the public response condition rated ingroup minorities significantly higher than outgroup minorities (all $P < 0.05$) and outgroup minorities were rated significantly higher when responses were made in private than in public (all $P < 0.05$). Although there was no significant difference in the rating of persuasion, the means are in the same direction as the other dimensions.

These results show that outgroup minorities in the public response condition were rated lower than in the other conditions. One possible explanation for this is that subjects in the public response condition may have believed that other people would see their ratings and so have given lower ratings to avoid publicly agreeing with an outgroup. In other words, subjects may have employed a face-saving strategy.

7.2.27 Relationship Between Image of the Source and Level of Influence

In order to examine the relationship between the image of the source of influence and the extent to which individuals were influenced, a number of standardised regressions were conducted. The consistent, committed, confident and persuasive ratings were combined to form a four item scale with a Cronbach alpha reliability coefficient of 0.73 (note, the exclusion of any of the items did not increase the scale alpha). This scale is termed 'behavioural style' (BS). Table 28 below contains the results of a number of regressions using the influence scores as the dependent variable.

Table 28

Regression Analyses between Influence Scores and
Independent Variables*

	Overall		Ingroup		Outgroup		Public		Private	
	F	P<	F	P<	F	P<	F	P<	F	P<
RES	9.17	.003	<1	n.s.	14.53	.0006				
CAT	<1	n.s.					7.06	.01	<1	n.s.
BS	<1	n.s.	<1	n.s.	<1	n.s.	<1	n.s.	<1	n.s.

[*Individual Standardized Regressions with the influence scores as the dependent variable with the response, categorization and behavioural style score as the independent variables. Analyses are done for all conditions]

From the above table it can be seen that, in all of the conditions, perceived behavioural style was not a significant predictor of influence. In the overall analyses, it should be noted that the response variable (public/private) was a significant predictor of influence while the categorization variable (ingroup/outgroup) was not. The other significant findings are consistent with the influence scores.

7.2.3 Discussion of Experiment 6

The results of this experiment show that on public responses, ingroup minorities had more influence than outgroup minorities (supports hypothesis 4) while there was no difference on private responses which

does not support hypothesis 6. However, as predicted by hypothesis 2, there was greater private change than public change and a significant interaction between the variables (supports hypothesis 7).

The image of the source ratings indicated that outgroup minorities were rated lower than ingroup minorities, particularly so when subjects were in the public response condition. Such a finding suggests that subjects may have been using a face-saving strategy of not wanting to be seen to evaluate a minority positively. Such an interpretation is consistent with the social identification model's account of public responses, that is, the more negative is the image of a source of influence, the less likely individuals will publicly agree with it.

The following experiment is similar to the present experiment except that the social categorization dimension concerns sex. Also, there is a control condition for comparative purposes. The main aim of this experiment is to replicate the findings of experiment 6.

7.3 Experiment 7

7.3.1 Method

7.3.1.1 Subjects and Design

The subjects were 131 male and female pupils from a comprehensive school in Swindon aged fourteen to fifteen years. 14 subjects were excluded (6 because they did not believe in a sixth-form grant and 8 because they were unavailable for the second stage). A further 9

subjects were randomly omitted to obtain a balanced design.

The experiment employed the sixth-form grant research design and was a 3(single minority v double minority v control) x 2(public v private response) completely between-subjects design with 18 subjects per condition.

This experiment is discussed in Martin (1987b, experiment 2).

7.3.12 Procedure

The procedure was exactly the same as for experiment 6 with two stages and approximately three weeks between the stages. There were three main differences between this experiment and experiment 6 (note that this experiment was conducted in a different school than the one for experiment 6).

(a) Instead of the outgroup school choices method employed in experiment 6, the social categorization dimension concerned sex (like experiment 5). Male subjects either received a male minority (single minority) or a female minority (double minority) while female subjects either received a female minority (single minority) or a male minority (double minority). However, due to the fact that some classes did not complete the rating data, because of lack of time, this section of their data was incomplete and therefore not analysed.

(b) A control condition was included where subjects made pre- and post-test estimates about the sixth-form grant without reading the text (like experiment 5).

7.3.2 Results

7.3.21 Influence Scores

Influence scores were measured as the difference between pre- and post-test scores. Mean influence scores are given below in Table 29.

Table 29
Mean Influence Scores as a Function of Minority and Response
Condition*

	Public	Private
Single Minority	5.22 (3.31)	6.88 (4.47)
Double Minority	1.61 (3.28)	8.25 (4.2)
Control	0.13 (0.81)	0.44 (4.02)

[*scores represent the difference between pre-test and post-test in pounds, positive scores represent change in the direction of the source of influence, standard deviations are in brackets, n=18]

Influence scores were examined using a 3(single minority v double minority v control) x 2(public v private response) between-subjects ANOVA. This revealed a highly significant main effect for the

influence conditions [$F(2,102)=26.81, P<0.0001$] and for the response condition [$F(1,102)=17.75, P<0.0001$]. The latter result shows that subjects were more influenced when they made their responses in private than when they made them in public which confirms hypothesis 2. Finally, as predicted by hypothesis 7, there was a significant interaction between the variables [$F(2,102)=7.98, P<0.0006$].

The condition means were examined using the Newman-Keuls comparison of means procedure. Within the public response condition, hypothesis 4 was supported because ingroup minorities had significantly more influence than outgroup minorities ($P<0.01$) and the control condition ($P<0.01$). There was no difference between the outgroup minority and the control. Within the private response condition, hypothesis 6 was not supported as there was no difference between ingroup and outgroup minorities. However, both ingroup and outgroup minorities had significantly more influence than the control (both $P<0.01$). Comparisons between the public and private response conditions showed that the only significant difference concerned the outgroup minority ($P<0.01$). Finally, hypothesis 8 was supported, that is, there was no difference between the control conditions when responses were made in public or private.

7.3.22 Number of Subjects Influenced

The number of subjects who were influenced in the direction of the source of influence is shown below in Table 30.

Table 30

Number of Subjects Influenced as a Function of Minority and
Response condition*

	Public	Private
Single Minority	16	16
Double Minority	10	17
Control	2	9

[*number of subjects influenced in the direction of the source of influence, n=18]

A number of chi-squared analyses showed that more subjects were influenced in the private response condition than in the public response condition (chi-squared=6.84, d.f.=1, $P < 0.01$).

7.3.3 Discussion of Experiment 7

The results from this experiment are similar to those found for experiment 6. On public responses, single minorities had more influence than double minorities which confirms hypothesis 4.

Although double minorities tended to have more influence than single minorities on private responses, this difference was not significant.

However, as predicted by hypothesis 8, there was a significant interaction between the minority status variable and the level of influence variable. Finally, in the control condition, mode of response (public/private) made no difference to the extent of

influence achieved. This is an important finding as it shows that the differences in the influence scores observed between the level of influence variable cannot be attributed just to the different measurement techniques.

7.4 Discussion of Chapter 7

The results from the two experiments discussed in this chapter are consistent with those observed in the last chapter and confirm four out of the five hypotheses stated in the introduction (see section 7.1). On public responses, ingroup minorities had more influence than outgroup minorities (experiments 4, 5, 6 and 7) which supports hypothesis 4. Although in both experiments 6 and 7, outgroup minorities had more influence than ingroup minorities when responses were made in private, in neither case was this difference significant. Therefore hypothesis 6 has not been supported. This point is considered in in the Discussion (chapter 9).

Both experiments discussed in this chapter supported hypothesis 8, that is, that there would be a significant interaction between the minority status and the level of influence variables. Finally, an interesting finding was that there was no difference between the double minority and the control in experiment 7 (this replicates the finding observed in experiment 5). This shows that labelling a communication as being the position of an outgroup minority has the same effect (at least on public responses) as not receiving the communication.

An attempt was made to assess the image of the source of influence in

both the experiments discussed in this chapter. Due to practical problems, the rating data was incomplete for experiment 7 and therefore was not analysed. However, the ratings from experiment 6 showed that outgroup minorities were rated lower (less desirable) than ingroup minorities on a number of measures of behavioural style when subjects had been in the public response condition. It should be noted that the rating measure was the same for all subjects and not made in public or private. This suggests that subjects may be following a face-saving strategy of not wanting to be seen publicly to rate an outgroup favourably.

CHAPTER 8

8.1 Introduction to Chapter 8

In the research discussed in chapters 5,6 and 7 group membership was manipulated on what might be considered to be a relevant social dimension, that is, on the basis of school preferences (experiment 6) or gender (experiments 4,5 and 7). In this sense the term 'relevant' is being used to denote a categorization with which individuals are familiar and which they use to differentiate ^{themselves} from other people. According to the social identification model one would expect ingroups to have more influence than outgroups (at least on public responses) even when the categorization is based upon relatively trivial criteria. This holds as long as individuals assume that their own group membership is associated with more desirable characteristics than the outgroup.

Three experiments are discussed in this chapter which have examined the effects of trivial social categorization (that is, categorization which is not based upon a meaningful dimension) upon minority influence. Three hypotheses can be stated which test the above ideas. First, consistent with hypothesis 4, ingroup minorities should have more influence than outgroup minorities even when the social categorization is trivial (hypothesis 9). Second, minorities which are associated with a desirable image should have more influence than

minorities which are associated with an undesirable image (hypothesis 10). Third, the superiority of ingroup minorities over outgroup minorities should disappear when the categorization dimension is not based upon similarity (hypothesis 11). In other words, the predicted effects of social categorization should only occur when the categorization dimension supports an intergroup context, such that, individuals can favour their own group and discriminate against an outgroup.

Two methods are employed in these experiments to measure the image of the source of influence. In experiment 8 the self, ingroup and outgroup rating system employed in experiment 5 is used. While in experiment 10 the more conventional method of rating behavioural styles employed in experiment 4 is used.

8.2 Experiment 8

8.2.1 Method

8.2.11 Subjects and Design

The subjects were 58 fourteen and fifteen year old male and female pupils from a comprehensive school in Swindon. 6 subjects were excluded (4 because they were unavailable for the second part of the research, and 2 because they did not believe in a sixth-form grant). The subject number was further reduced to 48 (22 male and 26 female) in order to achieve a balanced design by randomly omitting 4 subjects.

The experiment was a 3(trivial ingroup minority v trivial outgroup

minority v control) completely between-subjects design with 16 subjects per condition. Subjects were randomly allocated to one of 2 experimental conditions or a control condition.

This experiment is discussed in Martin (1987b, experiment 3).

8.2.12 Procedure

The experiment employed the sixth-form grant design discussed earlier (section 6.2). The experiment consisted of two stages with approximately four weeks between the stages.

Stage 1: In the first stage subjects were asked to indicate whether they believed sixth-formers should receive a grant and if so, how much this should be per week (pre-test). They were also asked to indicate whether they intended to enter the sixth-form (yes, no, don't know). Finally they were asked to estimate how many pupils attended secondary schools in the Swindon area.

Stage 2: In this stage subjects were told that "In the first stage you were asked to estimate the total number of pupils attending schools in Swindon. We have found that there tend to be two types of answers, pupils either overestimate (they think the number is larger than it actually is) or they underestimate (they think the number is smaller than it actually is). You are an _____". Subjects were either told that they were overestimators or underestimators (this allocation was random).

After this, subjects read the minority text which was either

attributed to the subjects' same estimator group (ingroup) or different estimator group (outgroup). They then indicated again how much the sixth-form grant should be (post-test). The control condition was the same as above except that, after being told which estimator group they were in, they gave their post-test response without reading a minority text. Following this, all subjects rated themselves, ingroup and outgroup on four dimensions (this is the same procedure as employed in experiment 5).

8.2.2 Results

8.2.21 Influence Scores

Influence was calculated as the difference between pre- and post-test scores. Preliminary analyses showed that the influence scores were not affected by the sex of the subject ($F < 1$), whether they believed in a sixth-form grant ($F = 1.78$, n.s.) or the estimator group they were in ($F = 2.86$, n.s.). Furthermore, none of these variables significantly interacted with the minority condition variable. Mean influence scores as a function of experimental condition^{are} given below in Table 31.

Table 31

Mean Influence Scores as a Function of Minority Condition*

Ingroup Minority	7.59 (6.94)
Outgroup Minority	3.53 (3.47)
Control	0.68 (2.62)

[*scores represent the difference between pre-test and post-test in pounds, positive scores represent change in the direction of the source of influence, standard deviations are in brackets, n=16]

A one-way ANOVA was done on the influence scores which revealed a significant effect for the minority condition variable

[$F(2,45)=8.6, P<0.0007$]. The condition means were subjected to the Newman-Keuls comparison of means procedure. This showed, as expected by hypothesis 9, that ingroup minorities had more influence than outgroup minorities ($P<0.05$) and the control condition ($P<0.01$).

Surprisingly, there was no significant difference between the outgroup minority and the control although there is a large difference in the means (this is a similar finding as in experiments 5 and 7).

8.2.22 Image of the Source Ratings

Subjects rated themselves, typical ingroup and typical outgroup on four dimensions; trusting, courageous, moral and generous - this is

the same comparison procedure as used in experiment 5.

The rating scores for each dimension were subjected to a 3(self v ingroup v outgroup) x 3(ingroup minority v outgroup minority v control) MANOVA with the first factor being a within-subjects variable and the second factor being a between-subjects variable. Table 32 below contains a summary of the statistics from these MANOVA's.

Table 32

Summary of Results of MANOVA's for each Comparison Dimension*

	TR		COUR		MOR		G	
	F	P<	F	P<	F	P<	F	P<
C	<1	n.s.	1.7	n.s.	1.7	n.s.	<1	n.s.
R	<1	n.s.	1.67	n.s.	<1	n.s.	4.86	0.01
CxR	<1	n.s.	<1	n.s.	<1	n.s.	1.2	n.s.

[*C=conditions, R=ratings]

From Table 32 it can be seen that only one significant main effect was observed, that is, for the rating variable on the generous dimension. Furthermore, none of the two-way interactions were significant. Table 33 below contains the mean ratings of self, ingroup and outgroup as a function of comparison dimension.

Table 33

Mean Ratings of Self, Ingroup and Outgroup as a Function
of Comparison Dimension*

	TR	Cour	MOR	GEN
S	4.81	4.87	4.79	4.89
I	4.48	4.56	4.54	4.83
O	4.58	4.27	4.43	3.95
N-K				
SxI P<	n.s.	n.s.	n.s.	n.s.
IxO P<	n.s.	n.s.	n.s.	0.01
SxO P<	n.s.	n.s.	n.s.	0.05

[*S=self, I=ingroup, O=outgroup, N-K=Newman-Keuls, means ratings on a 7-point scale, the higher the rating the greater the possession of the dimension]

Since the MANOVA's had revealed only one main effect for the rating variable for the generous rating it is not surprising to find that the only significant difference concerned this dimension. The results showed that subjects rated outgroup minorities lower on the generous dimension than they did for the self and ingroup rating.

It is clear from Tables 32 and 33 that there is a similar pattern of results across the dimensions and therefore these were combined to form a single scale. The four item scales for the self, ingroup and outgroup ratings had alpha reliability coefficients of 0.6, 0.72 and 0.83 respectively. In none of the scales was the alpha coefficient increased by omitting one of the items from the scale. In Table 34

below is shown the mean ratings of S,I and O as a function of minority condition.

Table 34
Mean Ratings of Self, Ingroup and Outgroup as a Function
of Minority Condition*

	Ingroup	Outgroup	Control	F	P<
S	4.93	5.15	4.43	5.59	0.007
I	4.57	4.73	4.00	0.016	n.s.
O	4.26	4.26	4.41	0.005	n.s.
MANOVA					
F	<1	2.97	<1		
P<	n.s.	0.06	n.s.		
N-K					
SxI P<	n.s.	n.s.	n.s.		
IxO P<	n.s.	n.s.	n.s.		
SxO P<	0.05	0.05	n.s.		

[*one-way ANOVA's on mean ratings across combined dimensions, N-K=Newman-Keuls]

As can be seen from Table 34 the only difference across the minority variable concerned the S ratings, showing that ratings of the self were significantly higher when subjects had been exposed to an ingroup or outgroup than when they had been in the control condition. Although the ratings of S,I and O followed the pattern observed in experiment 5 (that is, $S > I > O$), this pattern was only significant for

those subjects who had been in the outgroup condition. The condition means were examined using the Newman-Keuls procedure and showed that subjects rated themselves significantly higher than the outgroup when in the ingroup and outgroup minority conditions. None of the others comparisons were significant.

8.2.3 Discussion of Experiment 8

The results of this experiment support hypothesis 9 stated in the introduction of this chapter; namely, even with a trivial categorization ingroup minorities had significantly more influence than outgroup minorities. Surprisingly there was no difference between the outgroup minority and the control although there was a very large difference between the means (which less conservative statistical tests than the Newman-Keuls would pick up). The latter finding is consistent with that found in experiments 4 and 7 .

Some interesting findings were found with the rating dimensions. It is worth noting that subjects were categorized into their groups on a relatively trivial dimension (estimation of number of pupils in secondary schools). One can be sure that subjects had not categorized themselves in this way before and therefore did not correlate group membership with any particular characteristics. Any results which emerged can be attributed to the experimental manipulations.

Three important results emerged. Like experiment 5, there was a tendency for subjects to rate themselves higher than the ingroup which in turn was rated higher than the outgroup (although this was only

significant for one dimension). The fact that this result was as strong as that observed in experiment 5 is most probably due to the fact that the categorization dimension in that experiment was a very salient one (sex). Second, subjects rated themselves higher than the outgroup when they had been in the ingroup and outgroup minority conditions than when they had been in the control condition. This highlights the effect of making the intergroup context salient (subjects in the control condition were categorized but received no text). Third, following from the last finding, subjects rated themselves higher when in the ingroup and outgroup minority conditions than when they had been in the control condition.

These results are compatible with those found for experiment 5. It shows that, even with a trivial social categorization, subjects discriminated between the different groups and when the intergroup context was made salient they rated themselves higher and the outgroup lower than when the intergroup context was not made salient.

8.3 Experiment 9

8.3.1 Method

8.3.1.1 Subjects and Design

The subjects were 86 fourteen and fifteen year old male and female pupils from a comprehensive school from Swindon. 9 subjects were excluded (because they were unavailable for the second stage of the research and 1 because they did not believe in a sixth-form grant). The final subject number was reduced to 72 (35 male and 37 female) in

order to achieve a balanced design by randomly omitting 5 subjects.

The experiment was a 2(ingroup v outgroup minority) x 2(positive v negative image) completely between-subjects design with 18 subjects per condition. Subjects were randomly allocated to one of four experimental conditions.

8.3.12 Procedure

The experiment employed the sixth-form grant design discussed earlier (see section 6.2). The experiment consisted of two stages with approximately two weeks between the stages.

Stage 1: In the first stage subjects were asked to indicate whether they believed sixth-formers should receive a grant and if so, how much this should be per week (pre-test). They were also asked to indicate whether they intended to enter the sixth-form (yes, no, don't know). Finally they were asked to estimate how many pupils attended secondary schools in the Swindon area. This stage was exactly the same as stage 1 in experiment 8.

Stage 2: This stage was the same as for experiment 8 in that subjects were informed which estimator group they belonged to (either overestimator or underestimator). However, after this, the image of the minority manipulation was applied. The image of the source manipulation consisted of informing subjects that membership of a particular estimator group was associated with either desirable or undesirable characteristics. For example, "We know from previous research that overestimators tend to be friendly, reliable, and

intelligent while underestimators tend to be unfriendly, unreliable and not as intelligent. We should stress that these differences do not apply to everyone, although we are confident that overestimators tend to be associated with more desirable characteristics than do underestimators". Therefore, according to the subjects' estimator group, they either received a minority communication from their own estimator group (ingroup) or from the other estimator group (outgroup). Also, subjects were led to believe that the minority either had a desirable or an undesirable image in terms of its characteristics.

8.3.2 Results

8.3.21 Influence Scores

Influence was calculated as the difference between pre-test and post-test scores. Since preliminary analyses showed that there was no difference between sex of the subject, intention to enter the sixth-form or estimator group, the influence scores were collapsed across these factors. Mean Influence scores as a function of experimental condition are shown below in Table 35.

Table 35

Mean Influence Scores as a Function of Minority and
Desirable Conditions*

	Positive	Negative
Ingroup Minority	4.11 (3.32)	0.5 (2.75)
Outgroup Minority	6.88 (3.65)	0.36 (2.22)

[*scores represent the difference between pre-test and post-test in pounds, positive scores represent change in the direction of the source of influence, standard deviations are given in brackets, n=18]

The influence scores were subjected to a 2(ingroup v outgroup minority) \times 2(positive v negative image) completely between-subjects ANOVA. There was no significant main effect for the minority variable [$F(1,68)=2.99, P<0.09$], whilst there was an extremely significant main effect for the image of the source variable, which supports hypothesis 10, such that, a positive image caused more influence than a negative image [$F(1,68)=44.1, P<0.0001$]. Contrary to expectations, the interaction between the variables approached significance [$F(1,68)=3.65, P<0.06$].

The experimental means were examined with the Newman-Keuls comparison of means procedure. The analysis showed that both ingroup and outgroup minorities had significantly more influence when they had a positive image than when they had a negative image (both $P<0.01$). Also, whereas there was no difference between the minority groups when

they had a negative image, contrary to expectations outgroup minorities had more influence than ingroup minorities when the image was positive ($P < 0.05$). The latter finding is particularly surprising as it is in direct conflict with hypothesis 4. However, an explanation for this result can be put forward if one looks at the instructions given for the each experimental condition in more detail.

The experimental instructions not only gave information concerning the image of the source of influence but also information concerning the image of the target of influence (that is, the subjects). The relationship between the images for the source and target of influence is shown below in Table 36.

Table 36

Relationship Between Image of Source and Target of Influence*

	Image			
	Desirable		Undesirable	
	(in)	(out)	(in)	(out)
Ingroup Minority	+	-	-	+
Outgroup Minority	-	+	+	-

[*instructions assigning desirable (+) or undesirable (-) characteristics to own (ingroup) and other (outgroup) estimator groups]

The instructions which directly refer to the source of influence have

been printed in bold. If only this information had been given to each condition then the experimental manipulation would have been satisfied. However, the inclusion of information concerning the other group has led to a confounding such that it is impossible to determine whether influence is due to the image of the minority, the image of the other group or an interaction between them. From examining the instructions it can be seen that the ingroup/desirable and outgroup/undesirable conditions both recieved the same information (+ -) while the ingroup/undesirable and outgroup/desirable conditions also had the same instructions (- +). The significant interaction in the influence scores between these variables shows that subjects were more influenced when they were told that their own group was undesirable while the outgroup was desirable (that is, - +). This suggests that subjects were more influenced towards a group which had a more desirable image than their own group.

8.3.3 Discussion of Experiment 9

The aim of this experiment was to explore the role of the image of the minority when it has been defined as either an ingroup or an outgroup. Unfortunately, problems arising from the experimental instructions preclude confidence in the results and this limits the testing of hypothesis 10. However, it should be noted that minorities had far more influence when they had a desirable image than when they had an undesirable image. When the image of the minority was undesirable very little change occurred. The effects of the desirability variable appears to override those of the categorization variable, although it should be noted that the salience of the desirability variable is much stronger (desirable characteristics compared to trivial group

membership).

An attempt was made in this experiment to tease apart the effects of desirability and categorization. These variables are often assumed to be linked such that ingroups are associated with more desirable characteristics than outgroups. It is the desirability of the characteristics of the ingroup which motivates individuals to publicly agree with them (in order to self-attribute these characteristics).

Perhaps the most important finding from this experiment has been that subjects were most influenced by a group which had a more desirable image than their own group. This shows individuals' motivation to assign themselves to groups with desirable characteristics.

8.4 Experiment 10

8.4.1 Method

8.4.1.1 Subjects and Design

The subjects were 120 fourteen and fifteen year old male and female pupils from a comprehensive school in Swindon. 14 subjects were excluded (6 because they were unavailable for the second part of the research and 8 because they did not believe in a sixth-form grant). The final subject number therefore was 106 (59 male and 47 female).

The experiment was a 3(cat alone v cat+sim v cat+dis) x 2(ingroup v outgroup minority) completely between-subjects design with between 16 to 20 subjects per condition. Subjects were randomly allocated to one

of six experimental conditions.

This experiment is discussed in Martin (1987b, experiment 4)

8.4.12 Procedure

The experiment employed the sixth-form grant design discussed earlier (section 6.2). The experiment consisted of two stages with approximately five weeks between the stages.

Stage 1: In the first stage subjects were asked to indicate whether they believed sixth-formers should receive a grant and if so, how much this should be per week (pre-test). They were also asked to indicate whether they intended to enter the sixth-form (yes or no). Finally they were asked to estimate how many pupils attended secondary schools in the Swindon area.

Stage 2: Like experiments 7 and 8 subjects were informed that pupils tended to either overestimate or underestimate the number of pupils in secondary schools. They were then informed which estimator group they belonged to (assignment was random). At this point the similarity variable was administered. Subjects in the similarity condition read the following "We have found that there tends to be differences between overestimators and underestimators in their personality, abilities, intelligence, interests etc.. In fact, we would expect pupils from the same group to be very similar to each other". The aim of these instructions was to cause subjects to believe that there is a real difference between overestimators and underestimators and that people from the same group are similar to

each other . Note that it is not stated that there is any positive value to belonging to the group. On the other hand, subjects in the dissimilarity condition read the following "We have found that there tends to be no difference between overestimators and underestimators in their personality, abilities, intelligence, interests etc.. In fact, we would expect pupils from the same group to be very different from each other". The aim of these instructions was to cause subjects to believe that there is no difference between the two groups nor that there is any similarity between an individual and other members of their own group. Finally, subjects were asked to re-estimate the number of pupils in their area and to allocate themselves to one of three groups; overestimator, underestimator or between.

8.4.2 Results

8.4.2.1 Influence Scores

Influence was measured as the difference between the pre- and post-test scores of subjects' estimate of the level of the sixth-form grant. Preliminary analyses showed that the influence scores were unaffected by the sex of the subject, whether they wished to enter the sixth-form or whether they subsequently changed their categorization (all F 's < 1). However, there was a significant minority condition x changed categorization interaction which will be discussed later. None of the other two-way interactions were significant. The influence scores were then subjected to a 2 (ingroup v outgroup minority) x 3 (cat alone v cat+sim v cat+dis) completely between-subjects ANOVA. Mean influence scores as a function of minority and category relevance is given below in Table 37.

Table 37

Influence Scores as a Function of Minority
and Category Relevance*

	Cat Alone	Cat+Sim	Cat+Dis
Ingroup Minority	5.40	6.27	1.61
	(5.40)	(5.89)	(3.77)
Outgroup Minority	2.21	2.07	1.75
	(2.70)	(3.36)	(4.34)

[*scores represent the difference between pre- and post-test in pounds, positive scores represent change in the direction of the source of influence, standard deviations are in brackets]

Preliminary analyses showed that the influence scores were unaffected by the sex of the subject, whether they intended to enter the sixth-form or if they changed identification (all F 's < 1). Furthermore, only one two-way interaction between these variables and the independent variables were significant. This is considered later in this section. The ANOVA revealed main effects for the categorization variable [$F(1,79)=6.12, P<0.015$] showing that ingroup minorities ($X=4.36$) had more influence than outgroup minorities ($X=2.00$), and for the relevance variable [$F(2,79)=2.7, P<0.07$] showing that subjects in the cat alone and cat+sim ($X=3.8$ and $X=4.41$) were influenced more than those in the cat+dis ($X=1.68$). The final finding from the ANOVA was no significant interaction between the category and relevance variables [$F(2,79)=2.22, n.s.$].

The experimental means were examined using the Newman-Keuls comparison of means technique. Since there was different number of subjects in each condition a version of the Newman-Keuls procedure suggested by Keselman, Murray and Rogan (1976) was employed (due to the fact that the difference in the number of subject in each condition was small, the harmonic mean for all conditions was used instead of those for the two conditions being used).

The results of the Newman-Keuls showed that the ingroup minority had significantly more influence than the outgroup minority in the cat alone condition (this replicates experiment 8 and supports hypothesis 9) and in the cat+sim condition (both $P < 0.05$). As predicted by hypothesis 10 there was no difference between ingroup and outgroup minorities in the cat+dis condition. Whilst there was no difference for the outgroup minority across the relevance conditions, ingroup minorities had more influence in the cat alone and cat+dis conditions than the cat+dis condition (both $P < 0.05$). This pattern of results suggests that there was a reduction of influence caused by an ingroup minority when it was in the cat+dis condition.

The two way-interaction between the categorization and the identification change variables will now be examined. It should be remembered that at the end of the experiment subjects were asked to re-estimate the number of pupils they believed went to secondary schools in their area (it was their first estimate which they believed formed the basis of their group membership). They were then asked to indicate which group they now belonged to; either overestimator, underestimator or between. Their group (re-)allocation was scored as follows; 1 if they gave the same group membership as they had been assigned to, 2 if they changed their group membership to the other

estimator group and 3 if they changed to in between. Mean influence scores as a function of degree to which subjects changed their identification is given below in Table 38.

Table 38
Mean Influence Scores as a Function of Degree of
Identification Change*

	SAME	CHANGED	BETWEEN
Ingroup Minority	5.89	2.76	4.30
	(9)	(7)	(40)
Outgroup Minority	0.41	1.47	2.63
	(9)	(10)	(31)

[*scores represent the difference between pre- and post-test in pounds, positive scores represent change in the direction of the source of influence, number of subjects in each condition are shown in brackets]

The above table shows that most subjects changed their group membership to be between the two groups (67%) irrespective of which minority condition they had been in. The number of subjects in the other conditions are very similar. The means were subjected to the Newman-Keuls comparison of means procedure which showed that, subjects who did not change their group identity (same), were more influenced by an ingroup minority than by an outgroup minority ($P < 0.01$). Also, ingroup minorities had more influence when subjects did not change their identity (same) than when they did (change) ($P < 0.05$). None of

the other comparisons were significant. Therefore the typical superiority of ingroup minorities over outgroup minorities (at least on public responses) was only found when subjects retained the same identity; when they changed (changed and between) there was no difference.

8.4.22 Image of the Source of Influence

The image of the source of influence was measured on four 7-point scales. The measures were consistent, committed, confident and persuasive. Each dimension was analysed by a 2(ingroup v outgroup minority) x 3(cat alone v cat+sim v cat+dis) ANOVA. The results of these ANOVA's are contained below in Table 39

Table 39

Summary of ANOVA's Conducted on Image of the Source Ratings*

	CON		COM		COF		PER	
	F	P<	F	P<	F	P<	F	P<
CAT	<1	n.s.	3.68	0.06	<1	n.s.	<1	n.s.
R	<1	n.s.	<1	n.s.	6.59	0.002	<1	n.s.
CATxR	1.18	n.s.	<1	n.s.	<1	n.s.	1.87	n.s.

[*cat=categorization, R=rating]

From the above table it can be seen that the only main effect for the categorization variable concerned the committed rating while the only

main effect for the relevance variable concerned the confident rating. None of the two-way interactions were significant. In Table 40 below are contained the mean ratings as a function of experimental conditions.

Table 40
Mean Ratings as a Function of Categorization
and Relevance Conditions*

	Cat Alone		Cat+Sim		Cat+Dis	
	Ingroup	Outgroup	Ingroup	Outgroup	Ingroup	Outgroup
CON	5.75	5.56	5.95	5.62	5.50	5.77
COM	6.13	5.75	6.25	5.93	5.95	5.83
COF	5.31	5.37	6.30	5.93	5.95	5.94
PER	5.00	5.37	5.25	4.56	5.00	5.38

[*scores represent means on 7-point scales, the higher the score the greater the possession of that attribute]

The means were examined using the Newman-Keuls comparison of means procedure which did not show a clear pattern of results across the dimensions (all effects are $P < 0.05$). For the cat alone condition, outgroup minorities were seen as more confident and persuasive than ingroup minorities (although the opposite effect was observed for committed). For the cat+sim condition, ingroup minorities were seen as more committed, confident and persuasive than outgroup minorities. This was the most consistent finding. There was no difference between ingroup and outgroup minorities in the cat+dis condition. Within the

ingroup minority condition, cat+sim tended to have higher ratings than the other conditions on all dimensions (although significant only on last two). In the outgroup minority condition, no clear pattern emerged. These results suggest that the effects of cat+sim were to accentuate the perceived difference between ingroup and outgroup minorities, an effect not observed in the other two conditons.

8.4.3 Discussion of Experiment 10

The results of this experiment replicate those found for experiment 8 and support hypothesis 9, namely, ingroup minorities have more influence than outgroup minorities even when the categorization process is relatively trivial (cat alone and cat+sim). Furthermore, as predicted by hypothesis 11, ingroup minorities did not have more influence than outgroup minorities when subjects believed they were dissimilar to members of their own group (cat+dis). This shows that the superior influencing ability of ingroup minorities (compared to outgroup minorities) is dependent upon information which supports intergroup discrimination, that is, leads individuals to favour their own group at the expense of the outgroup.

Since in the absence of relevant information individuals automatically assume that they are similar to members of their own group, it is not surprising that there was no difference between the cat alone and cat+sim conditions. The effect of knowing that one is similar to a group makes ingroup identity salient and promotes differentiation from other groups. Furthermore, knowledge of similarity with one's own group reinforces the feelings of dissimilarity with the outgroup and highlights the negative consequences which would result from

self-attributing those characteristics. In the case of cat+dis there is no basis from which to determine the desirability of the characteristics associated with each group.

Since subjects were required to indicate their group membership, at the end of the experiment it was possible to determine whether subjects had changed their identification as a result of receiving a minority communication. The predicted superiority of ingroups only occurred when subjects did not change their identification. When they changed their identification there was no significant difference between ingroups and outgroups. Presumably, subjects who kept the same identification had a stronger identification with their group than those who changed. Therefore, one would expect the stronger the ingroup identification the greater will be the difference in influence between ingroup and outgroup minorities.

Finally, the image of the source of influence was measured on four attributes. The results were dissapointing as no clear picture emerged. However, there was a tendency for outgroup minorities to be rated higher on the attributes than ingroup minorites in the cat alone conditon while the reverse, and expected effect, was true for the cat+sim condition.

Discussion of Chapter 8

The aim of this chapter was to explore the relationship between ingroup and outgroup minorities when the social categorization dimension derived from a relatively trivial basis. This is a different approach to previous chapters which have used a socially

relevant categorization dimension (that is school preference or sex). The purpose of looking at a trivial categorization is to seek the 'minimal' conditions necessary to observe the superior influencing ability of ingroups over outgroups. The search for the minimal conditions provides valuable insights into the cause of the phenomenon.

The results show, as predicted by hypothesis 9, that ingroup minorities have more influence than outgroup minorities even when the categorization process is based upon a relatively trivial dimension (experiments 8 and 10). Also, there was evidence to suggest that the desirability of the image of the minority (in terms of ascribed characteristics) plays a role in determining influence. More specifically, there was some evidence to support hypothesis 10 (although problems in the design should be noted) that minorities with a desirable image have more influence than minorities with an undesirable image (experiment 9).

Finally, in the last experiment (experiment 10) it was shown that the superior influencing ability of ingroup minorities only appears when subjects either assume or are led to believe that an intergroup context exists, that is, one which leads individuals to favour their own group over the outgroup. When individuals believe there is no basis for an intergroup relationship between ingroup and outgroups there should be no difference in their ability to exert influence (hypothesis 11).

PART III : DISCUSSION AND CONCLUSIONS

CHAPTER 9: DISCUSSION

9.1 Introduction to Chapter 9

The aim of this chapter is to review the results of the experiments presented in chapters 5 to 8, discuss whether the research aims have been met, consider methodological and theoretical problems with the research design and reflect on the directions future research should take.

9.1.1 Review of Results

This section is divided into three parts. First, an examination of the experimental findings in terms of the hypotheses stated in chapter 4. These hypotheses are concerned with the amount of attitude change caused by majority and minority influence. Second, an examination of 'additional' findings which were not covered by the hypotheses and are of interest to the aims of this thesis. Third, an examination of the image of the source of influence.

9.1.11 Hypotheses Deriving from ^{The} Social Identification Model

In section 4.6 ten hypotheses were stated which concerned the

relationship between the nature of the source of influence (majority v minority), social categorization (ingroup v outgroup) and the level of influence (public v private). These hypotheses were derived from the social identification model of social influence (see section 4.5) and tested by 10 experiments (discussed in chapters 5 to 8). The evidence for each of these hypotheses will now be considered.

Hypothesis 1 - majority influence should be greater in public than it is in private. This hypothesis was supported in experiment 1 but not in experiment 2.

Hypothesis 2 - minority influence should be greater in private than in public. This hypothesis was not supported in experiments 1 and 2 (pilot experiments) but was supported in experiments 6 and 7.

Hypothesis 3 - there should be an interaction between the nature of the source of influence (majority v minority) and the level at which influence is measured (public v private). This hypothesis was supported in the two experiments where it was tested. Experiment 1 found such a relationship when level of influence was measured using direct and indirect items while experiment 2 used public and private responses.

Hypothesis 4 - single minorities should have more influence than double minorities on public responses. If one makes an analogy between single/double and ingroup/outgroup minorities, then the evidence for this hypothesis is very consistent. In all the experiments which tested this hypothesis it was found that minorities from the same social category as the subjects had more influence than minorities from a different social category (experiments

4,5,6,7,8,9,10). This effect was observed when the social categorization dimension concerned sex (experiments 4,5 and 7), school membership (experiment 6) and trivial group membership (experiments 8,9 and 10).

Hypothesis 5 - there should be no difference between control conditions both when responses are made in public and in private. This hypothesis was supported in the only experiment in which it was tested (experiment 7).

Hypothesis 6 - the greater influence of single minorities over double minorities (on public responses) is true for male and female subjects. This hypothesis was supported in the two experiments where it was tested (experiments 4 and 5). Furthermore, no significant sex differences were observed in any of the experiments.

Hypothesis 7 - on private responses, outgroup minorities should have more influence than ingroup minorities. In the two experiments where this was tested there was a tendency for outgroup minorities to have more influence than ingroup minorities but in neither case was this difference significant (experiments 6 and 7).

Hypothesis 8 - there should be a significant interaction between social categorization (ingroup v outgroup minority) and level of influence (public v private). This hypothesis was supported in the two experiments where it was tested (experiments 6 and 7).

Hypothesis 9 - ingroup minorities should have more influence than outgroup minorities (on public responses) even when the categorization process is based upon a relatively trivial dimension. This hypothesis

was supported in experiments 8,9 and 10.

Hypothesis 10 - minorities with a desirable image should have more influence than minorities with an undesirable image. This hypothesis was supported by experiment 9 although a severe methodological problem associated with this experiment precludes confidence in this finding.

Hypothesis 11 - the greater influence of ingroup minorities over outgroup minorities should not occur when subjects believe that there is no relation between group membership and similarity. This hypothesis was supported in experiment 10.

In general it can be concluded that the hypotheses drawn from the social identification model of social influence have received support from the experimental research described in this thesis. The only hypothesis which does not receive strong support is hypothesis 7 (although in both experiments the difference was in the predicted direction). A possible explanation for the failure to support this hypothesis is discussed below in section 9.3.

9.1.12 'Additional' Findings

A number of additional findings concerning the amount of attitude change were observed in these experiments. An interesting finding was that in a number of studies there was no difference between the amount of change caused by an outgroup minority and a control condition (where subjects did not read a persuasive communication) when responses were made in public (experiments 5 and 7). Since the difference between pre- and post-test scores was insignificant for

both outgroup minority and control subjects, this suggests that outgroup minorities had no effect on changing subjects' attitudes.

Another interesting observation was that a control minority (that is, one where the minority's group membership was not made salient) had slightly more influence than an ingroup minority (although this difference was not significant). The conception of control minority is analogous to the conception of 'minority' in most experimental research, that is, as a group of people whose group membership is not made salient. This finding seems to suggest that subjects may consider a minority to be constituted by members of their ingroup unless information is given to the contrary. This is, of course, speculation.

9.1.13 Image of the Source Findings

Although none of the hypotheses focused on the image of the minority, this is an important consideration as Moscovici argues that minority influence is caused by the minority's behavioural style. The relationship between psychological cost and behavioural style is expanded upon later (see section 9.4).

Two main methods of measuring the image of the source were used in the experiments. The first method involved subjects reporting their view of the source on a number of attributes on Likert scales. This is the commonest method employed in research such as this. The second method was designed to examine the relationship between subjects' views of themselves, their ingroup and their outgroup. This involved subjects rating themselves, ingroup and outgroup on a number of attributes upon

Likert scales. Since the minority was either an ingroup or outgroup, this provided an opportunity to examine how subjects compare the source's image with their own. This is a new type of measure for this kind of research and should be considered exploratory in nature.

The results fall into three categories:

- (1) There was evidence to show that minorities tend to be seen as more confident and rigid than majorities (experiment 1). This is consistent with previous research. This highlights that minorities are often seen as determined because they stand up to the majority.
- (2) Ingroup minorities were seen as more consistent, committed and confident than outgroup minorities (experiments 4 and 6). If one considers these characteristics to be desirable, then this finding also implies that outgroup minorities are perceived with a less desirable image than ingroup minorities. This was especially noticeable when subjects gave their influence score in public rather than in private (experiment 6), suggesting that there may be an element of a face-saving strategy in operation. When people think that others will see their ratings they tend to favour their own group over an outgroup to a greater extent than when they believe no one will see their ratings. Such a view is totally consistent with the social identification model. This predicts that public influence will be determined by the amount of psychological cost (in terms of the image which is self-attributed) resulting from being influenced.

Another interesting finding emerging from experiment 4 was that male minorities were perceived as more persuasive than female minorities, irrespective of the sex of the subject. Whilst this may reflect

)
traditional attitudes towards the influencing abilities of males this was not associated with a corresponding difference in the amount of influence (in fact, none of the experiments reported sex differences in the influence scores).

) (3) The last set of results refers to subjects' ratings of themselves, ingroup and outgroup on four dimensions (trusting, courageous, moral and generous). Since the results were consistent across attributes they will be considered as one. In experiment 5, two important findings emerged. First, subjects consistently rated themselves more positively than their ingroup which in turn was rated higher than the outgroup (that is, self > ingroup > outgroup). This shows that, not only do individuals differentiate their group from the outgroup, but they also differentiate themselves from both groups. The former is a negative differentiation, the latter is positive. This suggests that the motive to discriminate is matched by a need to be seen as an individual. Second, outgroups were rated lower when subjects had received a minority communication which made the intergroup context salient (SM or DM) as compared to when they were in a condition that did not make reference to the intergroup context (CM or control). This shows that intergroup differentiation is stronger when such a context is made salient.

) In experiment 8 the results were not as clear cut as they were for experiment 5. However, subjects rated themselves higher than the outgroup when they had received influence attempts from an ingroup or outgroup minority but not when they were in the control condition. This adds some support for the above findings and confirms that differentiation is linked to the salience of the intergroup context.

One may wonder why the results for experiment 8 were not as significant as they were for experiment 5. Although the measurement technique was the same, the experiments used different social categorization dimensions, that is, sex (experiment 5) and trivial group membership (experiment 8). This difference between an important and a relatively trivial difference may explain why the latter study did not yield results as significant as the former.

Although these results do not directly relate to the hypotheses they give an insight into the role the image of the source has on social influence processes.

9.2 Methodological Research Aims

Whilst the primary aim of this thesis has been to derive a model of social influence which could explain the effects of social categorization upon minority influence, an important additional aim has been to comment upon and develop a satisfactory experimental design. The two aims are linked for one has to be satisfied with the validity of the experimental design before one can be confident of the findings which it yields.

In order to develop a satisfactory design, previous research in this area was considered to establish potential methodological problems (see section 4.4). As a result of this review a number of important issues were identified which needed to be taken into consideration when developing a suitable design to examine the experimental hypotheses (see section 4.4.1). Three main issues were identified and subsequently incorporated into the main experimental design (see section 6.2).

The first issue concerned the relevance of the topic to the ingroup and outgroup. Previous research had used topics which were of greater interest to the outgroup than the ingroup. Therefore, the inferior influence of the outgroup minority (compared to the ingroup minority) may not have been due to the fact that it was from a different social group than the subjects but that it argued a position in its own favour and was seen as biased. In the experiments described in this thesis the topic concerned a sixth-form grant which was equally relevant to the ingroup and outgroup, whether social categorization concerned sex (experiments 4,5 and 7), school preferences (experiment 6) or trivial criteria (experiments 8, 9 and 10). In other words, the topic was of equal interest to all groups as it concerned all pupils at the schools.

The second issue concerned the level at which social influence is measured. Previous research into minority influence has shown that minority influence tends to be greater on a latent or private level than at a manifest or public level. This is important as it shows that the true impact of minorities cannot be assessed by public responses alone. In general, research into minority influence and social categorization has only measured influence on public responses. In this thesis the effects of social categorization upon minority influence has been measured on public and private responses (experiment 6 and 7).

The third issue concerned the nature of the categorization dimension which has been used to distinguish between ingroup and outgroup. In previous research this usually has been achieved using sex or nationality as a categorization dimension. While these dimensions

undoubtedly relate to ingroup and outgroup membership, researchers have failed to establish that such a categorization leads to intergroup discrimination. In this thesis an attempt has been made to use real groups which actively engage in intergroup discrimination (experiment 6).

It can be seen from the above that the three main issues which arose from a consideration of previous research in this area have been taken into consideration when planning the experimental design used in this thesis.

9.3 Methodological Issues

First, it could be claimed that the results of these experiments have no implications for actual group interaction because subjects merely filled in questionnaires and did not interact with other individuals. This is an important point because research has shown that interaction in groups can have powerful effects on attitude change (consider, for instance, the research of Lewin, 1958). It is important, therefore, to note that most of the research into minority influence and intergroup relations, like my own, has not been conducted in groups. However, the dilemma facing subjects in experiments is comparable to that facing a subject in a group. Whether or not a subject is in a face-to-face group, he/she is confronted by the influencing attempts of a source and the issue is whether to agree or disagree with the source of influence. Either way, the dilemma is similar, though the normative pressures are greater when people interact face-to-face and with the source of influence (Levy, 1960).

The second issue concerns the possibility of a bias in subjects' responding due to the design of the experiments. Since the minority always advocated a grant level which was higher than the subjects' original response, it is possible that the subjects agreed with the minority in order to maximize potential gain. They may have thought that the chance to obtain a higher grant outweighed the fact that they would be agreeing with a minority.

There are a number of reasons why it is unlikely that such a strategy can account for the results. Although subjects thought that the topic of a sixth-form grant was relevant to them, they were fully aware that the introduction of such grants was unlikely to occur during the time they would be at school. Therefore subjects knew that they were not going to gain personally from a higher grant but that their successors might. Also, if subjects had used a strategy of financial gain one would expect the strategy to have been applied regardless of the experimental manipulations, yet there were significant differences in the amount of influence between the various conditions. Furthermore, in some experiments there was no difference in the level of influence between some of the experimental and control conditions, showing that reading the text did not always lead to subjects giving a higher grant level (experiments 5,7 and 8).

The third issue concerns the method employed to measure public and private responses. In the 'public response condition' subjects were told that other individuals would see their response while in the 'private response condition' subjects placed their responses into a 'ballot box', thus stressing that it would remain anonymous. The main difference between these two conditions is the degree of normative pressure, this pressure being higher in the public response condition

than in the private response condition.

While this method has been successfully employed by previous researchers (for example, Maass and Clark, 1983b), the present research differs from previous research using manifest and latent measures of influence (for example, Moscovici and Personnaz, 1980; Moscovici et al., 1981; Wolf, 1979), in at least two important ways. First, in my experiments, the public/private response manipulation was employed as a between-subjects variable (that is different subjects were in each condition) as a preferred method. Previous research, by contrast, used the manifest/latent measures as a within-subjects variable (that is, both measures are taken for each subject). The problem with this approach is that one cannot eliminate the possibility that the measurement at one level of influence might affect the measurement of the other. For example, a measurement taken in private might be affected if the subject had first given a response in public (or vice versa). A possible way to overcome this problem would be to change the order in which subjects make the public and private responses. Second, in the research in this thesis the actual method for measuring influence was the same in the public and private response conditions while previous research, using manifest and latent influence, typically employed different measures. The advantage of having the same measure for both public and private responses is that it makes it easier to make comparisons between the two conditions.

A fourth issue concerns the method of measuring private influence. Previous research has measured latent influence by devising ingenious methods for obtaining influence on dimensions unlinked to the measure of manifest influence. My own research has employed private responses which I have used as interchangeable with latent influence. Although

these two concepts are similar, they differ in at least one important aspect. Private responses, as operationally defined in these experiments, represent unconscious attitude change. It is possible that the failure to show a difference on private responses between ingroup and outgroup minorities (as predicted by hypothesis 7) could be due to the insensitivity of this method. It may be that the predicted difference would emerge if minority influence were measured on a dimension which represents unconscious attitude change, such as, latent influence (Moscovici and Personnaz, 1980) or indirect influence (Mugny, 1982).

A fifth issue concerns the use of a pre- and post-test method of measuring influence. In this situation the same measure of an attitude (in this case, the sixth-form grant level) is used before and after subjects receive a persuasive communication designed to change their attitude. Any changes between these two measures is attributed to the persuasive communication. However, it is usual to have a delay between the two stages to increase the chance that subjects will forget their first response and stop them repeating it in order to appear consistent (and consciously avoid changing their attitudes). This delay is usually two or three weeks. Even though there are problems with this method it should be noted that there was no difference found between pre- and post-test measures when subjects were in the control condition and did not receive a communication (experiments 5, 7 and 8). This shows that subjects did not change their attitudes simply due to the passage of time and this finding increases one's confidence that the observed attitude changes were due to the experimental manipulations rather than the pre- and post-test measure.

A sixth issue concerns the nature of the influence data. Previous research has usually measured influence on attitude rating scales which give ordinal data which are not strictly suitable for certain types of statistics. In the research design used in this thesis the influence scores can be considered to be ratio data (that is, they have a zero point and the intervals between points of the scale are equal) and therefore are suitable for parametric statistics (such as, ANOVA).

The seventh issue concerns problems which are specific to the research design itself and the influence scores which are derived from it.

Preliminary analyses of the influence scores revealed the level of influence was not affected by (i) the sex of the subject (experiments 6,7,8 and 10; also true for experiments 4 and 5 where it was a dependent variable); (ii) whether subjects intended to enter the sixth-form (experiments 4,5,6,7,8 and 10); and (iii) whether they had been assigned to a particular estimator group (experiments 8 and 10). Furthermore, in none of these experiments were these factors found to interact significantly with the dependent variables.

The eighth issue concerns the subject population. The results are unlikely to be due to any particular feature of the subject population because pupils from a wide range of academic abilities were used. Furthermore, the observed results are unlikely to be due to a school effect as five schools were used to conduct the experiments.

9.4 Theoretical Issues

A number of theoretical issues have emerged as a result of the

research area which is discussed in this thesis. I would now like to discuss a number of these.

First, the relationship between psychological cost and behavioural style has not been considered in detail in this thesis. This was not studied extensively because the main analysis focused on the influence scores. However, the term psychological cost has been used in a global sense as referring to any factor which contributes to an individual's awareness of the consequences of being influenced. The major factor appears to be the perceived deviancy of the source of influence, that is, the more deviant the source of influence the greater would be the psychological cost of being influenced. In this scenario behavioural style could be considered to be a factor which affects psychological cost. More specifically, behavioural style can either reduce or increase the level of psychological cost according to whether it leads to attributions of a desirable or undesirable image. I am arguing that behavioural style is a component of psychological cost and cannot on its own be a causal factor in social influence.

The difference between Moscovici's theory and the social identification model is best shown when considering how each of these theories could account for the results observed in my own research. Moscovici's theory could account for the findings if it was assumed that outgroup status is associated with attitude extremity resulting in individuals engaging in a validation process to a greater extent than they would for an ingroup minority. While Moscovici's explanation relies upon individuals assuming that outgroups are associated with attitude extremity, the social identification model makes the assumption that individuals assume that outgroups have a social identity different from their own group and therefore have

different attitudes. Since outgroups are usually discriminated against, individuals will tend to believe that the attitudes of the outgroup will be evaluated less favourably than those of their own group. The emphasis here is that attitude differentiation is a consequence of intergroup dynamics. A prediction from this would be that outgroups may influence individuals if the perceived difference in their social identifications is reduced.

Second, as a result of the research discussed in this thesis, we are now in a position to consider some additional theoretical issues relevant to the social identification model. The first point is that there is some evidence to suggest that psychological cost appears to be related to public responses while identification distinctiveness (perceived difference in social identification of the target and the source) appears to be more related to private influence (see experiment 6 in particular). Since there is a positive correlation between psychological cost and identification distinctiveness, one would expect the more distinctive the source of influence the more likely influence will occur on a private level than on a public level. This is a tentative conclusion and warrants further research. The second point is that, if psychological cost affects public responses, it portrays individuals as rational decision makers (this does not apply to private responses which may be governed by an unconscious process). Although there is no evidence to support this claim, it is consistent with my experiences in conducting the experiments. Subjects in the public response condition were very aware of the consequences of others knowing their position and it would not surprise me if they used a face-saving strategy. In a sense the experience of psychological cost is not dissimilar to that of cognitive dissonance (Festinger, 1957).

The third issue concerns the way individual differences have been treated in research. Most experiments into social influence have been characterised by large differences in the extent to which individuals are influenced in any given condition. This is also true of the experiments discussed in this thesis. Current explanations of social influence processes have largely ignored individual differences and therefore require extra assumptions in order to account for them. For example, according to Moscovici's explanation of minority influence, the more the source of influence is perceived as having a consistent behavioural style the more likely it will have influence; however, in order to account for individual differences, it must be assumed that individuals vary in their perception of behavioural styles. Although this may help us to understand individual differences, it does not explain why individuals differ in their perceptions of behavioural styles nor what effects these differences will have.

The above problem arises when explanation of social influence, such as conversion theory (Moscovici, 1980) and social impact theory (Latane and Wolf, 1981), are based upon factors which are exclusively outside the target of influence. The social identification model can overcome this problem, to a certain extent, because it relies upon factors which are inside and outside the target of influence.

The fourth and final point I would like to raise concerns the relationship between social influence research and the attitude change literature in general. These two fields have tended to be treated as independent and little integration has occurred. This is surprising as social influence theories are also theories of attitude change but specific to majorities and minorities. I see no reason why an

integration would not be fruitful, especially with the work of Festinger (1957) on cognitive dissonance and Bem (1972) on balance theories.

Likewise, research into social influence has become 'detached' from the literature on group processes. This is partially due to the rigours of scientific exploration with the need to strip the social context to the bare minimum. Social influence is a group process, it is the transfer of group held beliefs (majority or minority) to the individual. More consideration of other group processes, such as attitude polarization, leadership etc. would provide a fuller understanding of majority and minority influence.

9.5 Future Research Directions

In this section a number of suggested future research directions are discussed. These have been developed out of issues arising out of this thesis. The ordering is for ease of presentation only and does not imply degrees of importance.

The first issue concerns the measurement of the image of the minority. Most research in this area has used a limited number of concepts believed to be important to behavioural style (such as consistency, commitment etc.). Two important future directions emerge from this. First, wider coverage of concepts to measure the image of the minority. Mugny and his colleagues (Mugny et al., 1983) have taken active steps towards this end. They have measured the image of the source upon a number of dimensions and through the use of factor analysis have reduced this down to a number of scales. Second, the

role of attributions arising from the minority's behavioural style has been treated as independent from the influence scores. This is surprising as Moscovici's theory stresses the direct relationship between minority influence and its behavioural style. Much ground could be covered here through the use of (moderator) multiple regressions (see Maass and Clark, 1984). In my view, there appears to be a change in emphasis in recent research in that post-experimental measures are becoming much more important in experimental designs.

The second issue is relevant to the first issue and concerns the measurement of social identification. Recent work by Oaker and Brown (1984) has developed a technique of measuring an individual's strength of identification with a group. At first sight this appears a promising development and would be of benefit in social influence research. In particular, the social identification model predicts that influence should be accompanied with a corresponding change in identification. This could be tested by measuring subjects' strength of identification before and after influence has taken place.

The third issue concerns testing further hypotheses from the literature on intergroup relations which are relevant to social influence processes, for example, one would predict that individuals will tend to minimise the difference within a minority and a majority while maximizing the perceived difference between them. In this area I would suggest the use of in- and out-groups which are based upon trivial criteria. This would allow the investigation of the minimal conditions necessary for influence to occur. Following from the research in this thesis the next logical progression would be to examine the effects of trivial group membership upon private responses.

The fourth issue concerns the concept of 'psychological cost'. This concept has not been extensively explored in this thesis as the main level of analysis has been the influence scores. Future research should be directed at this concept as it has a central role in the social identification model. There is a large body of psychological and sociological literature on the concept of identity. A starting point could be Turner's distinction of personal and social identity, the former refers to knowledge of individual (or unique) characteristics while the latter refers to knowledge of group characteristics. It is possible that the psychological cost associated with a source of influence could be related to personal and/or social identity depending on which are made salient by the context.

The fifth and final issue is the perennial cry for more applied research in the area of social influence. Maass and Clark (1984) note that there has not been one field experiment in the literature of minority influence. It would be tempting to explain this in terms of researchers not wanting to leave the safety of the laboratory for the unpredictable 'real world'. To a certain extent this is true, field experiments take a long time to set up and have many risks associated with them. However, to the defence of researchers, there are also conceptual and ethical concerns here. Conceptual difficulties in translating the appropriate concepts to a 'real life' situation and ethical concerns associated with deliberate attempts to change attitudes. Nonetheless, these can be overcome, as shown by Wiegman's (1985) remarkable study, which looked at attitude change caused by Dutch politicians.

I believe research into social influence is now at a stage when fruitful field studies can be made. Two principal suggestions are made here. First, the use of naturally occurring events, such as, campaigns designed to change attitudes (for example, the recent campaign concerning AIDS), the effects of political deviants within their party (for example, the effect Tony Benn had within the Labour Party before the formation of the SDP), the effect of deviants within a group (for example, the miners who defied the majority of their colleagues and broke the strike). These are a few of the endless suggestions which could be made. Second, the designing of experiments to include as many 'real life' variables as possible. Most research has not used face-to-face groups, used relatively trivial issues concerning one topic and used immediate measures of influence, etc.. To a certain extent this is necessary to meet the stringent demands of experimentation, that is, to eliminate as many extraneous variables as possible. More attention could be paid, however, towards designing experiments to parallel the 'real life' situation, such as group interaction, multifaceted communications covering many issues, expression of both viewpoints, delayed measures of influence, etc..

9.6 Conclusions

The aim of this thesis has been to consider social influence processes from the viewpoint of intergroup relations. In particular the effects of social categorization have been examined in relation to minority influence. Previous research in this area had left many unresolved practical issues which needed consideration along with the theoretical issues. The consideration of an intergroup perspective consisted of two complementary stages; first, a detailed examination of

contemporary theories of social influence which revealed their inadequacy in explaining the effects of social categorization and, second, the testing of a number of hypotheses directly relating to an intergroup perspective. The results of the experiments supported the intergroup perspective and raised further important issues which have been dealt with earlier in this chapter.

Although the ideas presented in this thesis are in their formative stage, and no doubt will be revised in the light of future research, they provide an insight into the intergroup dynamics which occur between minorities and majorities. Finally, while many issues have been considered in the thesis many remain which await attention. It is my belief that good research should not only answer the questions it has set for itself but also act as a heuristic to future research. It is my hope that this thesis has achieved this.

APPENDICES

Appendix A

Questionnaire Measuring Responsibility for Pollution

Items taken from Mugny (1982) P.58-59.

- (1) Householders are very much to blame: they use washing powders and the most polluting detergents in a completely inconsiderate manner.
- (2) Car manufacturers take active and effective steps against pollution: they invest enormous sums in producing the cleanest possible cars.
- (3) It is completely unrealistic to blame washing powder manufacturers, because their products are not harmful if they are used according to the instructions given.
- (4) The problem of pollution will never be solved as long as motorists cannot even be induced to switch off their engines during prolonged stops, at red traffic lights, etc..
- (5) Supermarkets and the manufacturers of chemical fertilizers have no scruples about denaturing natural products.
- (6) How long can we blame farmers when we know perfectly well that if they don't use chemical fertilizers, even against their will, they will be forced out of business?

(7) People who blame picnickers and day-trippers for the degradation of nature are only trying to deflect attention from the real problems and the real guilt.

(8) Factories built in the countryside are always at a carefully spaced distance from each other, so as to avoid concentrations; this shows a real respect for nature.

(9) The automobile industries are only concerned with profit: not only do they refuse to take part in the struggle against pollution, but by insisting on increasing their output they are amongst those most responsible for it.

(10) It must be acknowledged that chemical fertilizer manufacturers have spent large sums in research to find products which increase yield while conserving the natural qualities of agricultural produce.

(11) Day-trippers, with their careless attitude and behaviour, have a grave responsibility for the slow but irreversible deterioration of nature.

(12) Farmers, in their short-sighted and selfish use of more and more chemical fertilizers, are giving us poorer and poorer quality produce.

(13) Washing powder manufacturers must accept the responsibility for continuing to sell (and advertise) products whose harmful properties they are fully aware of.

(14) It is simply lying to accuse drivers of being the most to blame for pollution.

(15) We should resist the attempts made to blame householders, when they are in fact only the victims of glossy advertizing which conceals the harmfulness of the products sold.

(16) Heavy industries recognize only criteria of profit and convenience in siting their factories, while nature is damaged by the fumes and dust they disgorge.

Appendix B

Text Employed in Pollution Experiment

From Mugny (1982)

We know what harm is done by exhaust fumes (a car leaves about 5000 cubic meters of polluting fumes and 10 kg of dust for every 1000 km it travels). The automobile industry is willing to poison the air of towns and even the countryside, using outrageous advertising techniques to push products designed only to rake in profits. Motorists are helpless in this situation. Cars could easily be equipped with antipollution filters which could fit simply on the exhaust system, yet manufacturers refuse to do this because it would cost them money.

Attempts have been made to blame picnickers and day-trippers for pollution, by launching clean-up and litter campaigns. But these are only ways of hiding the true culprits. How can we compare a few bits of litter and empty containers left behind by day-trippers with the tons of fumes, toxic gas and dust belched out over huge areas by factories ?

Householders are frequently and wrongly accused of polluting water. We should not overlook the fact that the washing powders they use are made by a chemical industry which takes little interest in the harm they do as long as they wash whiter and faster and are used as much as possible. The race for profits pushes industry into making more and

more products that they are obliged to sell by any means possible, such as dishonest advertising, and "~~bargain offers~~" that deceive consumers.

Farmers are just as often blamed for using too much chemical fertilizer in order to increase their yields. But they are obliged to do this if they want to keep their livelihood. The real responsibility lies with the supermarket chains and the fertilizer producers, who have no scruples about denaturing food products (in other words sacrificing quality to financial gain).

Appendix C

Instructions for Experiment 3

I am conducting research into young people's attitudes concerning capital punishment (that is, the death penalty). I have been using young people from a comprehensive school (very similar to this one) and from a public school (that is, a fee paying school). The research consists of two stages. The first stage is included in this booklet and is composed of two tasks. The second stage will be given to you next week.

I would like to assure you that what you write in this booklet will be treated in confidence and will not be made available to the school. The purpose of asking for your name is so that I can match your answers to this stage with that of the second stage.

Please read the instructions for each task carefully.

Thank you for taking part,

Robin Martin (Open University)

Appendix D

Text used in Experiment 3

The number of murders in this country is increasing dramatically, more and more innocent people are being killed needlessly. We hear daily on T.V. reports of cold blooded murders, such as terrorists' actions in Northern Ireland where bombs are designed to kill as many as possible. Similarly, not long ago, the Yorkshire Ripper was caught and the horrors of his crimes revealed. Many members of our police force are killed trying to stop crimes such as these being committed.

If a person is prepared to kill his fellow human beings he cannot be considered to be a human being himself, since murderers break all the rules of society (religious, ethical and moral). It's no use sending these people to prison in the hope "they'll learn their lesson" and lead a normal life when released: many murderers have murdered again when let out from jail. Anyway, why should society give these people a second chance, their victims can't have a second chance.

The effects a murder has on the victim's family should also be considered. To have an innocent member of one's family needlessly killed must cause a permanent emotional scar. This sorrow can only be intensified if the family know that the murderer may one day be free, perhaps to kill again. The victim's family have the right to know that the murderer receives the same treatment he gave to the innocent victim.

At the moment many murderers can expect to be released after a

relatively short prison sentence. This is an inadequate punishment for one who has denied someone his or her life and would not deter a would-be-murderer. Capital punishment would make people think twice before committing a murder and would also protect society from these wicked and vicious people.

Appendix E

Instructions for Public and Private Response Manipulations

(A) PUBLIC

I would now like you to complete the questionnaire on capital punishment on the next two pages. Please answer the questionnaire as honestly as you can. As a continuing part of my research I shall be gathering groups of pupils (from comprehensive and public schools) to discuss the topic of capital punishment. It is possible that you will be asked to take part in such a discussion group. If you are asked then your answers to the following questionnaire will be shown to the other members of the group (you will of course see their answers to the questionnaire). The purpose of this is so that everyone in the group will know the position of all others concerning capital punishment.

PRIVATE

I would now like you to complete the questionnaire on capital punishment on the next two pages. Please answer the questionnaire as honestly as you can. To ensure that your answers remain anonymous detach the two pages of the questionnaire from this booklet and place them into the "ballot box" provided (give the rest of the booklet back to the teacher). By doing this I will not be able match the questionnaires to any particular individual, in fact your answers will remain completely private.

Appendix F

Pre-Test and Post-Test Sixth-Form Grant Measurement Information

It has often been suggested that pupils who continue their education into the sixth form should receive a grant. At present, pupils can leave school at the end of the fifth form and claim supplementary benefit if they fail to find employment. The current rate of benefit, for young people living with their parents, is #16.50 per week which is expected to cover their rent, food, clothes etc.. If pupils wish to continue into the sixth form they are financially dependent upon their parents.

Do you think that pupils who stay on in the sixth form should receive a grant ? (please tick the appropriate answer below)

Yes _____

No _____

If you answered 'Yes' to the above question, how much grant do you think that pupils who continue into the sixth form should receive per week ? Please indicate how much grant they should receive per week in the blank space below.

I think that sixthformers should receive # _____ per week.

Appendix G

Sixth-Form Grant Text

Differences in the #40 version of the text are shown in brackets.

"I believe that pupils who continue their education into the sixth-form should not be dependent upon their parents. They should receive a grant which covers their living costs and this should be at least #35 (#40) per week".

"Since sixth-formers are trying to gain qualifications which could get them a job which is of use to society they should not be treated as children but like adults. I have a friend who left school at 16 and is now doing an apprenticeship at a company and is getting paid for it, if I choose to stay on into the sixth-form I'll get nothing. After all, isn't sixth-form study a kind of apprenticeship where pupils are trying to gain qualifications in order to get jobs?".

"It could be argued that a grant of between #15-20 (#20-25) per week is sufficient for someone living with their parents but I think this is very small compared to someone who has got a job. Since being in the sixth-form is a kind of job sixth-formers should receive a comparable amount of money to someone who has a job and is of the same age, that is about #35 (#40) per week".

"I do not think there is any difference between sixth-formers and University students, both have decided to continue their education which is needed in obtaining a job. University students get grants,

so why shouldn't sixth-formers?".

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